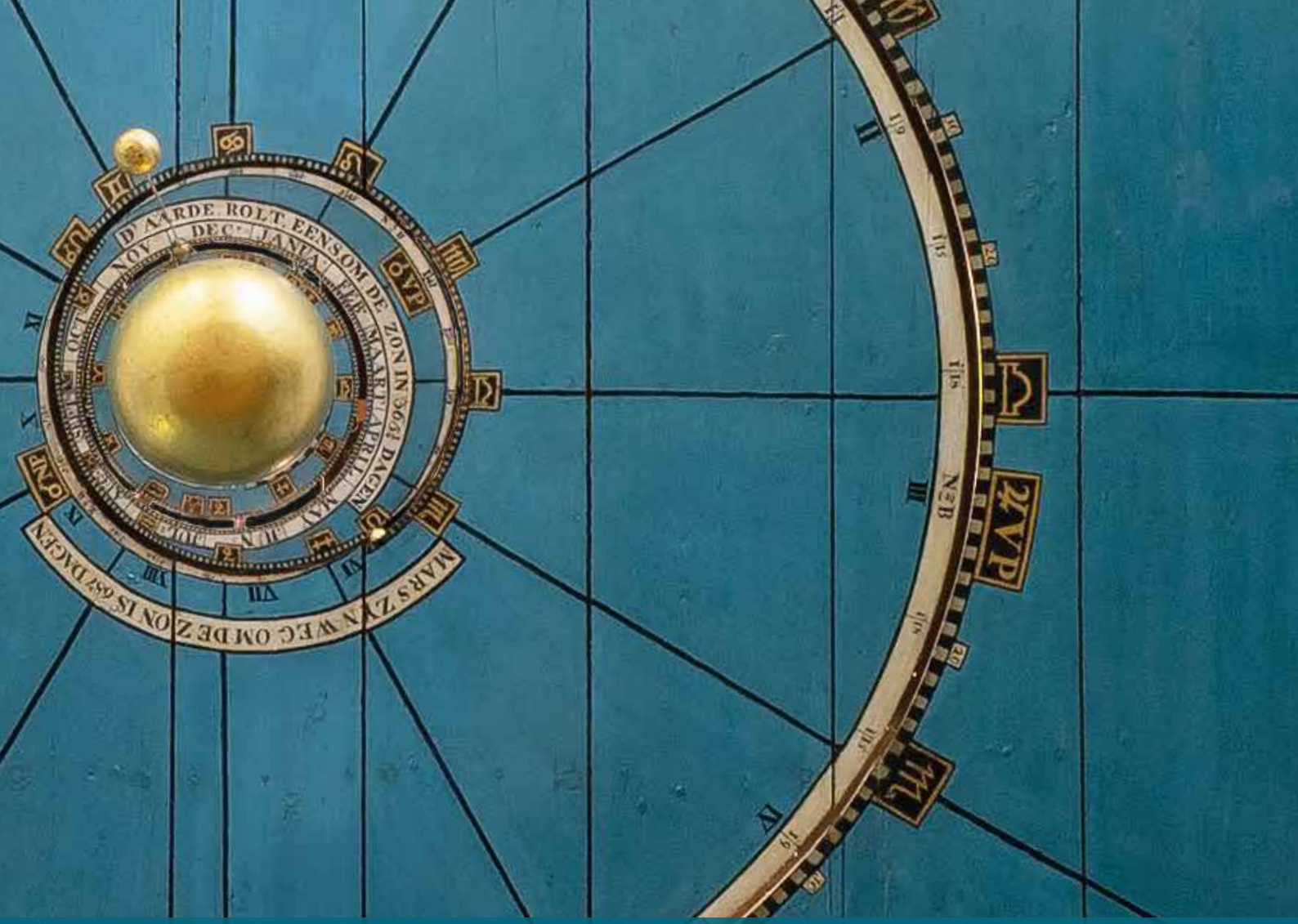
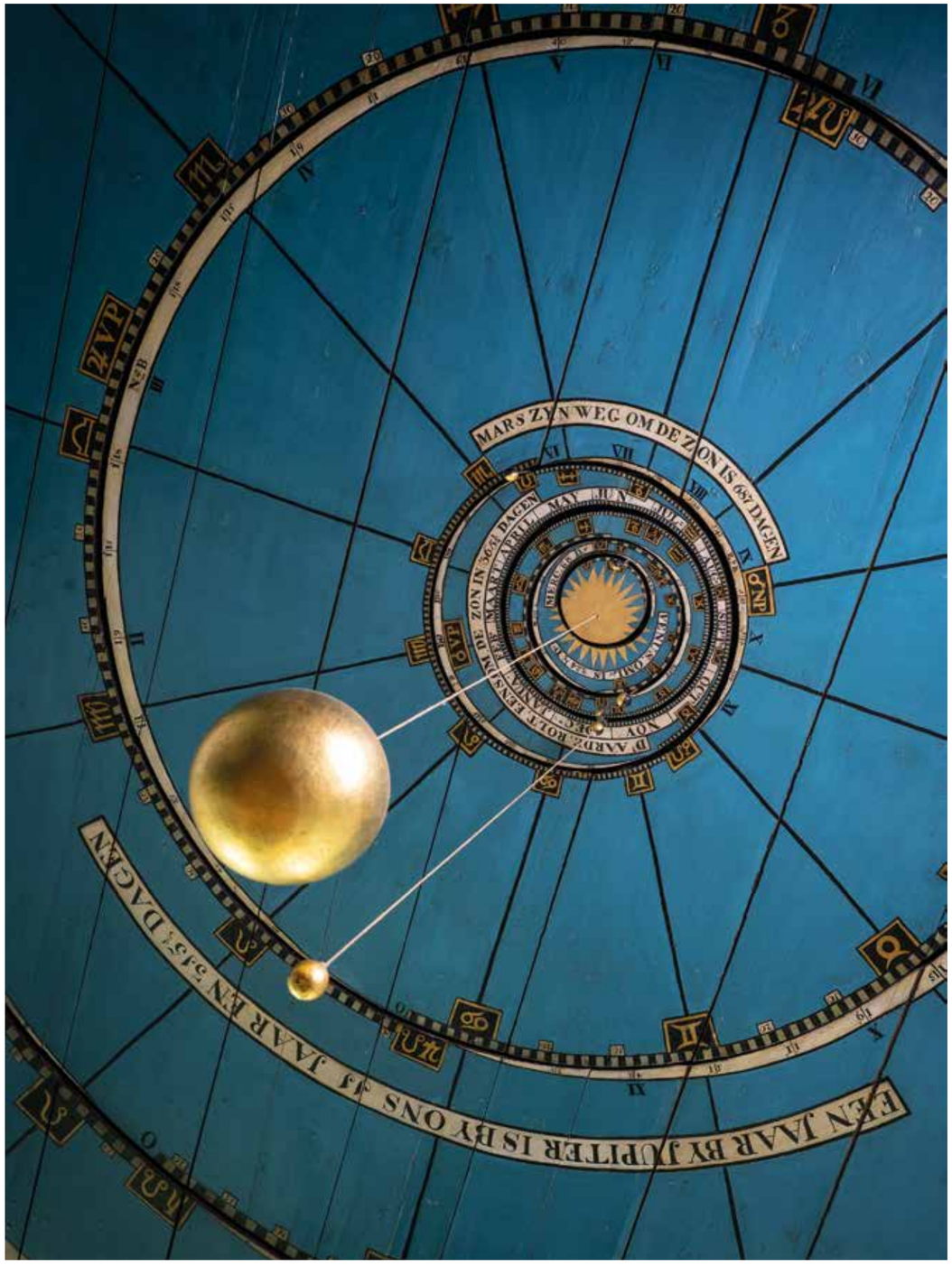


Moving heaven and earth

THE ROYAL EISE EISINGA PLANETARIUM

WORLD HERITAGE MANAGEMENT PLAN



Kingdom of the Netherlands

The Royal Eise Eisinga Planetarium Franeker

NOMINATION BY THE KINGDOM OF THE NETHERLANDS
FOR INSCRIPTION ON THE UNESCO WORLD HERITAGE LIST

World Heritage Management Plan

December 2021

Kingdom of the Netherlands

The Royal Eise Eisinga Planetarium Franeker

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December 2021

Published by Koninklijk Eise Eisinga PLANETARIUM

Foreword

BY MARGA C.M.
WAANDERS
MAYOR OF
WAADHOEKE

Master woolcomber Eise Eisinga built his Planetarium in the period from 1774 to 1781 in his home, a 15th century canal house in the centre of the city of Franeker. A marvel of ingenuity and beauty. The municipality of Waadhoeke, owner of the Royal Eise Eisinga Planetarium, treasures this continuously functioning and oldest replica of the solar system in the world. With or without a knowledge of astronomy, every visitor to this modest building undergoes a unique experience of the functioning of our solar system. We are proud of this jewel, and we propagate our pride wherever we can. The municipality provides an annual subsidy for the operation of the Planetarium. We have also contributed to special projects, such as the expansion of the Planetarium with the adjacent buildings.

Our support for the endeavour to achieve World Heritage status for the Planetarium is reflected in the enthusiastic commitment from the administrative organisation and the mayor's membership of the Nomination Team, but we have also provided additional funds for this ambitious goal. The owner's staff and resources are necessary conditions, but joining all forces is required in order to realise the World Heritage status; first and foremost the director and his staff, supported by the board of the Royal Eise Eisinga Planetarium Foundation and the Friends of the Royal Eise Eisinga Planetarium Foundation, and in collaboration with all the partners of this heritage.
Moving Heaven and Earth is an excellent title for this document: it refers to the essence of the solar system as well as to the combination of expertise, knowledge and treasuring that we are devoting to preserving this life's work for the whole world!

The continuous amazement and the enthusiasm of the visitors to our Planetarium, who come from far and wide, support the uniqueness of the Planetarium. A visit to the Planetarium invites getting acquainted with the city and its surroundings. A beckoning perspective is a combined visit to three World Heritage Sites in Friesland: the Planetarium in Franeker, the Wouda Steam Pumping Station in Lemmer and the vast Wadden Sea!

We know we can count on the support of our residents. For them, Eise Eisinga is a household name and his Planetarium is an icon. In line with Eise Eisinga's intention, the director and his team safeguard this educational function with a programme that allows all the students from the municipality of Waadhoeke to visit and experience the Planetarium. And after each visit, we have new friends of the Planetarium. The educational programme is changing with the times, as is the way in which the Planetarium generates attention in publications and through marketing. But the constant is the movement of the solar system that Eise Eisinga presented to the world. That miracle should be preserved for the world and remain accessible in its unique, original state. This is what all the workers and ambassadors of the Planetarium are putting their hearts and souls into.

I express the hope and expectation that the global community, represented by the UNESCO World Heritage Committee, will embrace this miracle of Friesland as a World Heritage Site.

Marga C.M. Waanders,
Mayor of Waadhoeke


DE MAAN LOOPT OP
DE MAAN LOOPT ONDER


MARS ZYN WEG OM DE ZON IS 687 DAGEN
EEN JAAR BY JUPITER IS BY ONS 12 JAAR EN 315 DAGEN

Preface

BY ADRIE WARMENHOVEN
MANAGING DIRECTOR
ROYAL EISE EISINGA
PLANETARIUM

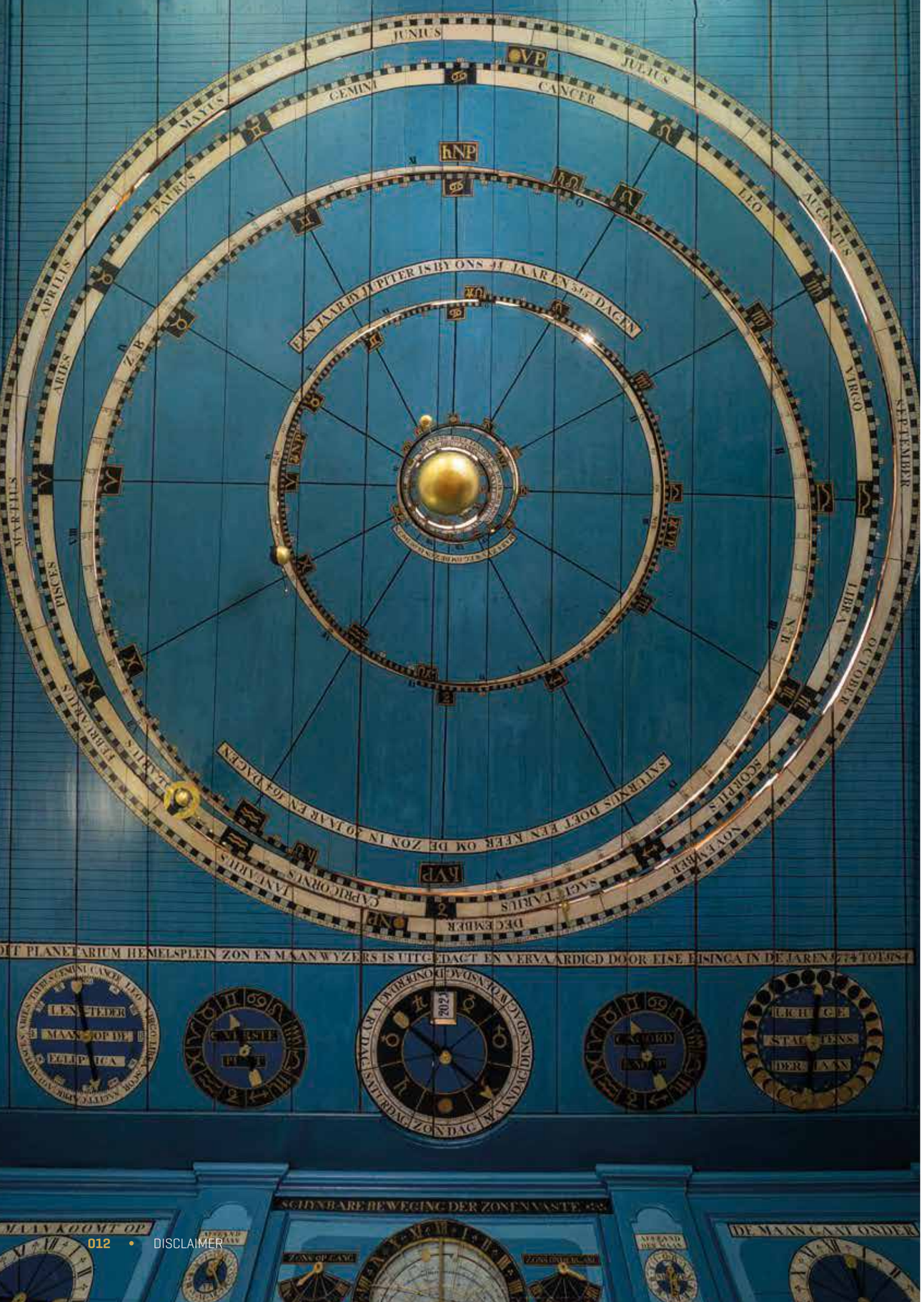
In the historical series of astronomical heritage, the Eisinga Planetarium occupies a prominent position as one of the very few ceiling planetariums in the world that have stood the test of time. But not only that. It is also a continuously functioning instrument in completely authentic condition, of a generous size, within the magnificent spatial context of a room in a monumental canal house, which in turn is part of an immaculately well preserved historic inner city ensemble designated as protected cityscape.

Since 1781, the Planetarium has been carefully managed and maintained in accordance with the written instructions of its creator and builder Eise Eisinga. One would almost conclude that time has stood still here, which is precisely not the case! In fact, what we are looking at here is an accurate astronomical clock from the 18th century. A heritage of outstanding value, that can continue in time for many hundreds of years.

It is such a fascinating perspective that generations before us perceived the constellation of sun and planets in their time, and that new generations will be able to see the future positions. Entering through the door of the planetarium room, you can see how the vast realm of the heavens is captured in the private character of a Frisian back room. Where the steady ticking of the longcase clock indicates the passage of time and sets the heavenly bodies in motion. Infinity unfolds very close to you, the untouchable is almost tangible. The inspiring guide, using a hundred-year-old pointer, carefully shows us how the patterns of the universe progress through time.

How incredible the fact that only very few other ceiling planetariums – the last one completed in 2013 – are spinning their orbits. It makes Eisinga's 1781 Planetarium by far the oldest still functioning example of its kind.

Adrie Warmenhoven,
Managing Director Royal Eise Eisinga Planetarium



Disclaimer

We have endeavoured to collect the visual material in this document with the utmost care and to indicate the sources. However, if you nevertheless consider certain images to have been used unlawfully, please get in touch with the contact address provided in Chapter 8a of the Nomination Document. The Acknowledgements at the back include a list of photographers and museums, archives and private parties that have provided visual material.

Contents

1.2 Vision

The Royal Eise Eisinga Planetarium will be a World Heritage Site that celebrates humanity's ongoing exploration of the universe and its position within it. To this end, the Planetarium unites stakeholders in continuing to protect as well as develop the Planetarium heritage. A historic site, where people from regional, national and global communities will be given a warm welcome and will have a world-class experience. The World Heritage status will transform a top national monument into a globally recognisable icon of astronomical knowledge that has been conveyed to the public virtually without interruption for almost 250 years. This World Heritage status will reinforce the valuable inspiration to continue that connection of astronomical science and humanity through the ages, passing on Eise Eisinga's brilliant work to future generations with integrity and authenticity. That is the firm ambition of the municipality of Waadhoeke as the owner, and the board of the Royal Eise Eisinga Planetarium Foundation as the manager.

This Management Plan describes the way in which this ambition will be deployed in favour of the sustainable conservation of the Royal Eise Eisinga Planetarium.

1.3 Function & principles of the Management Plan

A modern Management Plan has the function of an 'action plan', in relation to structural management and consequently structural conservation of the World Heritage Site. Issues such as the effects of tourism play a part in this, but also new insights (disaster management and climate change) and heritage impact assessments for Cultural World Heritage Sites.

Guiding principles
The Management Plan for the Royal Eise Eisinga Planetarium is based on a number of guiding principles for protection, management and knowledge transfer:

Principle 1 – Protection & conservation
Protection, conservation and sustainable maintenance of the Outstanding Universal Value, Integrity and Authenticity of the Planetarium, including possible measures in favour thereof.

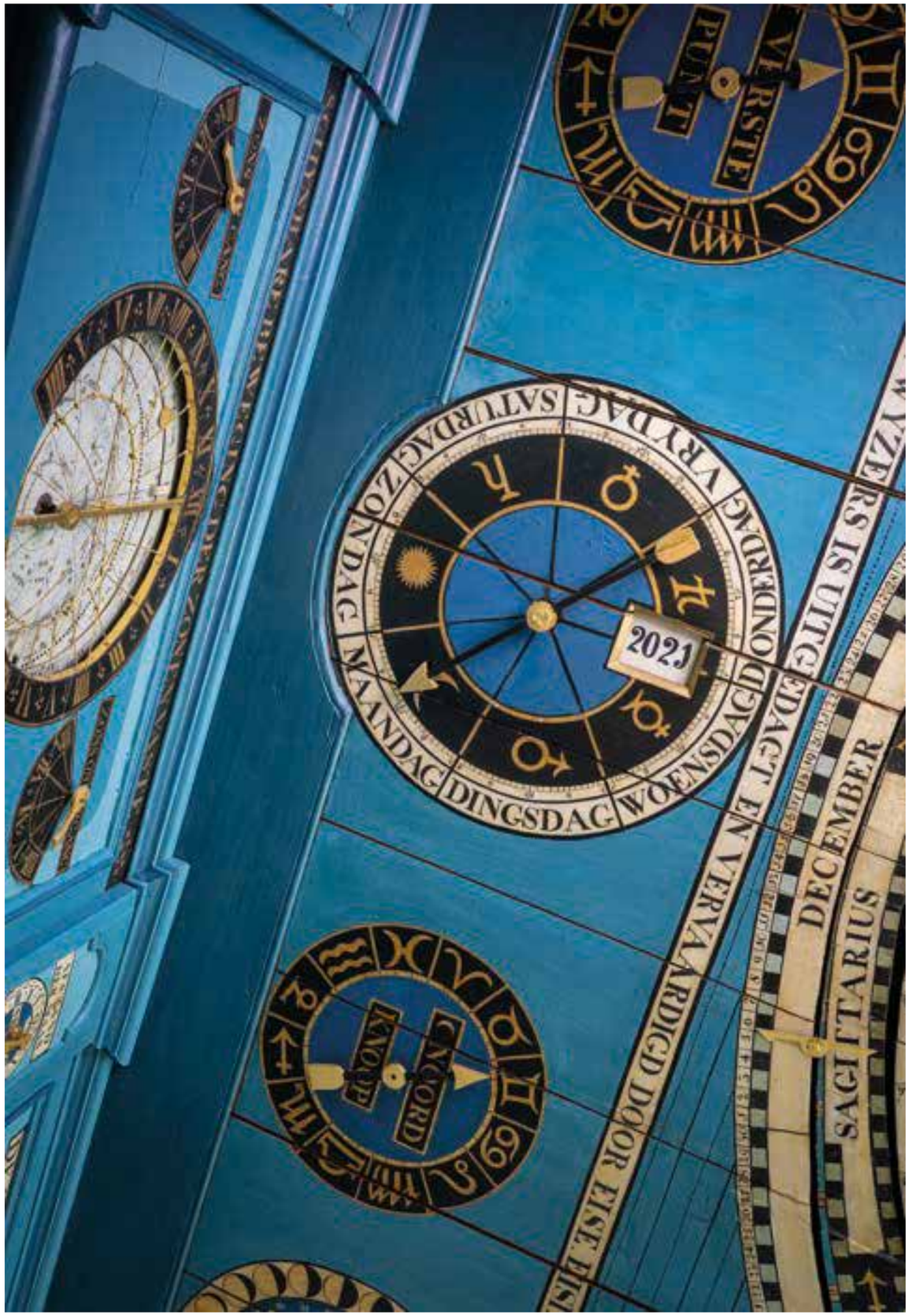
Principle 2 - Management vision
Prevention or limitation of developments and changes that could negatively affect the World Heritage Site.

Principle 3 - Community benefit
Contribution to the local community and economy through sustainable conservation and use.

Principle 4 – Presentation & transmission to future generations
Continued use of the Planetarium for receiving visitors and applying an extensive programme for presentation and education.

Principle 5 – Management
Internal: effective governance, adequate resources and appropriate supervision will be ensured to support the effectuation of the Management Plan, with attention to the transfer of management knowledge as laid down by Eise Eisinga, founder of the Planetarium, including the required aspects of planning, implementation, evaluation and feedback.
External: effective policies and efficient policy implementation will be ensured with regard to measures for the benefit of recognisability, accessibility and traffic.

These guiding principles will lead to, and result in, a number of policy measures to safeguard sustainable preservation, management and presentation. Information in this connection is provided in chapter 5 of this Management Plan.



1.4 Summary

The main objective of the Management Plan is the protection and conservation, both short and long term, of the World Heritage Site Royal Eise Eisinga Planetarium.

The structure for decision-making and the handling of changes in the context of the World Heritage Site is indicated, with attention being given to management goals, objectives and daily or periodic actions required to protect the World Heritage Site, to sustainably conserve it and to present it to the public.

The municipality of Waadhoeke, as the owner, and the board of the Royal Eise Eisinga Planetarium Foundation, as indicated in section 1.3 and composed of representative delegates, are the parties responsible for the formulation and implementation of this Management Plan, which has been drawn up in close collaboration and coordination with the Cultural Heritage Agency of the Netherlands.

The Management Plan:

- describes the Planetarium, with details of the boundaries of the World Heritage Site;
- sets out how to manage and maintain the Outstanding Universal Value, including the attributes, authenticity and integrity of the site;
- provides information on the current condition of the property and factors that can positively or negatively affect attributes, authenticity and integrity;
- states a shared vision for the long-term management of the property, and the policies, objectives and actions for the next five years;
- explains matters that may affect the preservation and use of the World Heritage Site, such as spatial developments, sustainability, tourism, education and transport;
- formulates a strategy for implementation, with monitoring and review as important aspects.

Given the overarching importance of continuously reinforcing the significance of the Planetarium through sustainable protection and sustainable management, it is desirable that municipal, provincial and national governments, and the planning bodies and operational services affiliated with these governments, have knowledge of this Management Plan for the benefit of the policies to be developed by them for and in the historic environment.

2. Description of the property

2.1 LOCATION, BOUNDARIES AND OWNERSHIP

Location

State Party and country
Kingdom of the Netherlands

State, province or region
Province of Fryslân (Friesland)

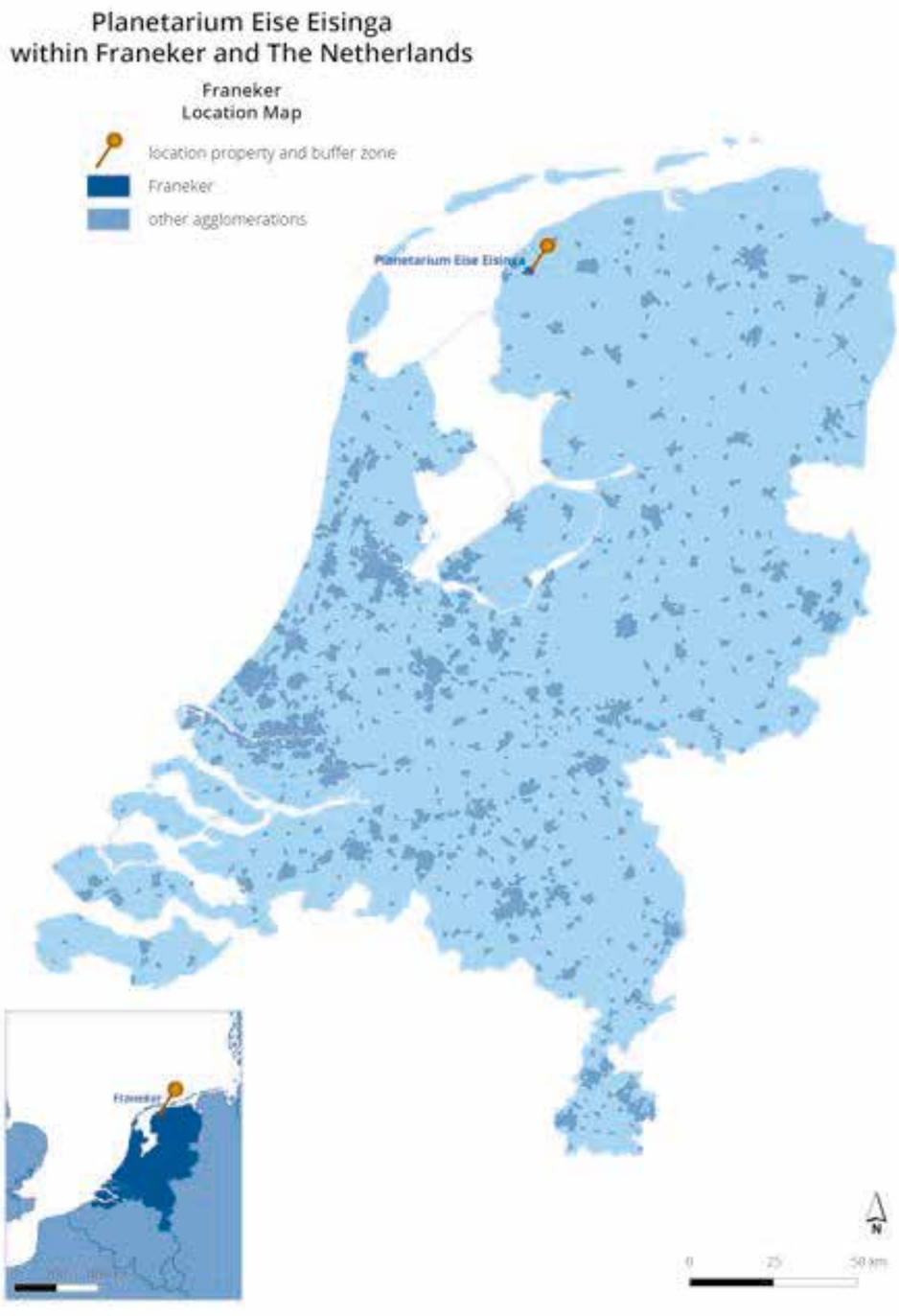
Name of the property
Koninklijk Eise Eisinga Planetarium (Royal Eise Eisinga Planetarium)

Geographical co-ordinates
N 53°11'14.55"; E 5°32'37.51".

Textual description of the boundaries of the nominated property

The boundaries of the nominated property have been drawn in order to encompass all the attributes that are a direct and tangible expression of its Outstanding Universal Value. The property measures 0.00271 hectare and is wholly owned by the municipality of Waadhoeke in the province of Fryslân (Friesland), in the northern part of the Netherlands. The buffer zone encompasses the immediate vicinity of the property and covers an area of 2.12539 hectares.

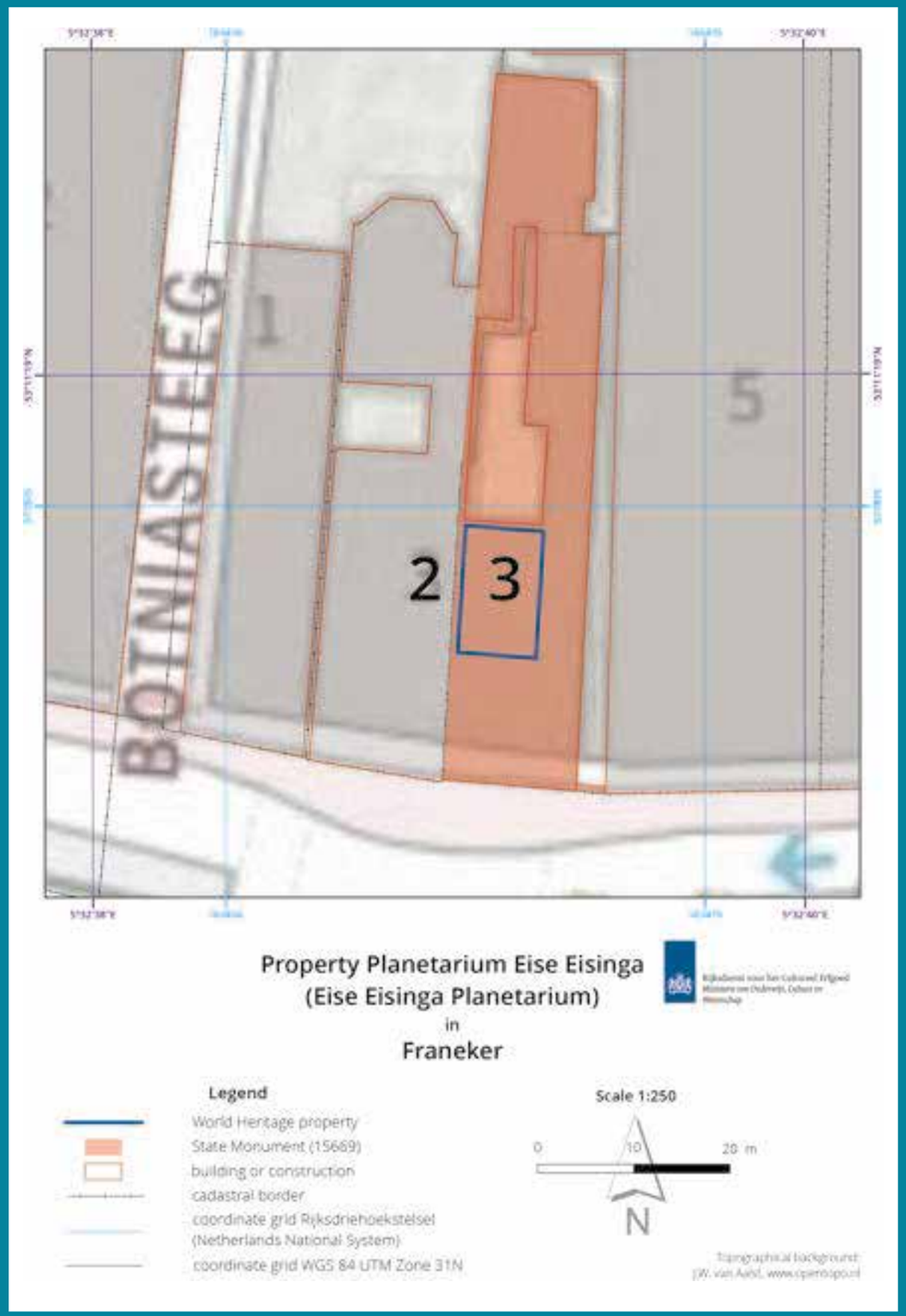
Map showing the property in the context of the province of Fryslân



3. Map showing the Netherlands with the city of Franeker.

4. Map showing the municipality of Waadhoeke and the city of Franeker.

Map showing the area of the property



5. Map showing the area of the nominated property.

Ownership

The nominated property, the Royal Eise Eisinga Planetarium, is owned exclusively by the municipality of Waadhoeke, and is managed by the Royal Eise Eisinga Planetarium Foundation on behalf of the owner. For this purpose, a subsidy agreement between the municipality of Waadhoeke and the Royal Eise Eisinga Planetarium Foundation, which enables the targets of preservation, management and transfer of knowledge of the Planetarium to be implemented.
The municipality of Waadhoeke has a structural subsidy relationship with the Planetarium. On the basis of this relationship an annual implementation agreement is drawn up in which the tasks of the Planetarium are stipulated.

2.2 FEATURES OF THE SITE

Canal house

The ceiling planetarium and the mechanism linked to it in the higher-level mezzanine, as well as the living room, are integral parts of the late 15th-century canal house at Eise Eisingastraat 3. This canal house is the former residence of wool manufacturer Eise Eisinga. Other spaces in the building are the former wool shop, a raised room with a cellar underneath, and an attic. Since the construction of the planetarium instrument, the building has remained in its original condition, with the exception of a few minor adjustments in order to meet contemporary safety requirements and to achieve optimal visitor flow. The canal house as a whole thus reflects the era that is closely linked to the creation of the Royal Eise Eisinga Planetarium **<6>.**

6. Canal houses Eise Eisingastraat.

Planetarium room

The ceiling to which the Planetarium is inextricably linked is part of an Old Frisian living room (h: 330 centimetres; w: 407 centimetres; l: 541 centimetres), which also served as a kitchen and bedroom (closet-bed). Next to the closet-bed there are two storage cupboards **<7>.**

Engravings from Eisinga's time prove that little has been changed to this frame. When you enter the planetarium room, you instantly imagine yourself in the 18th century. This makes the Royal Eise Eisinga Planetarium a kind of time capsule: it is still running as it did in 1781, and is situated in a room that still looks virtually the same as in 1781. Moreover, the preserved guest books show that this room has been open to visitors almost continuously. No other planetarium built in situ has been preserved intact to such an extent.

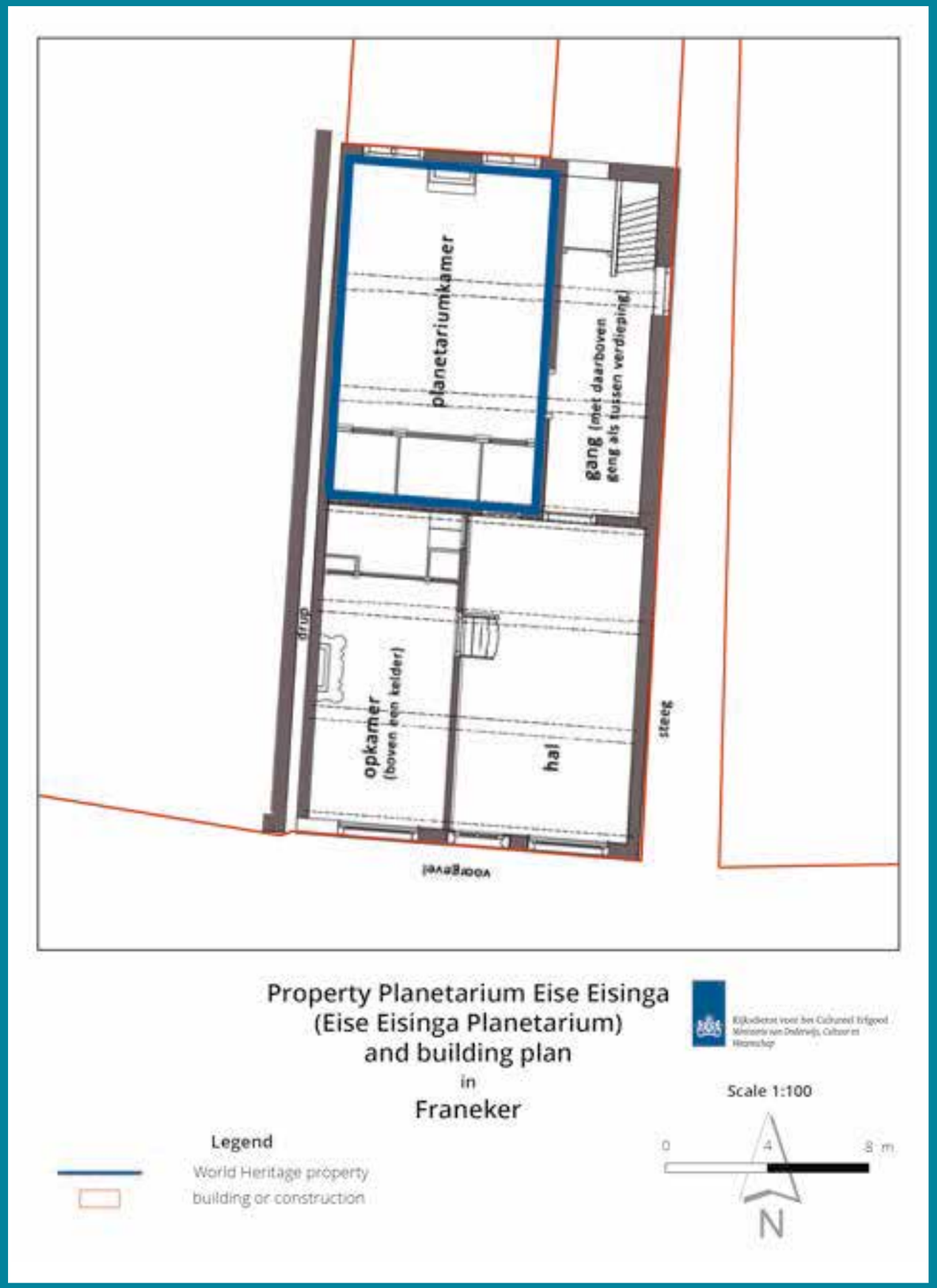
Modern additions are:

- climate control in the planetarium room and where the cogwheels are located (for the purpose of preservation);
- fire prevention measures (for the purpose of preservation); and
- electric lighting (required for public function).

In addition, the layout of the rear facade was adjusted in 1848, to allow more daylight into the room. In 1890, the former windows were replaced by new cross frameworks, and a new chimney was built **<8>.** The floor of the planetarium room was also laid with new fired tiles at that time.

7. Planetarium room, closet-bed wall.

8. Planetarium room.



9. Floor plan planetarium room in relation to the house.

10 Ceiling and closet-bed wall.

Ceiling and closet-bed wall

Between 1774 and 1781, Eise Eisinga built an accurately functioning model of the solar system in the closet-bed wall and on the wooden ceiling. The ceiling was installed under the crossbeams and provided by Eisinga with a Prussian blue underlay. The fixed elements, such as the sun and the signs of the zodiac, are painted on it. The moving parts, the planets, move through the slots in the ceiling **<10>.**

The 18th-century wooden closet-bed wall, which was a regular feature in the interiors of many houses of that time, is situated in front of the transverse wall of the room, back-to-back with the closet-bed wall in the adjacent raised room. The wall, also painted blue, is laid out according to the usual plan: the closet-bed in the middle with a cupboard on either side. This lower part is closed off by an architrave and there is room for a lower zone above it. The whole structure is articulated by pilasters.

The ceiling and the wall constitute a whole which serves to effect the movement of the Planetarium and show the manifestations of the celestial bodies. The essential elements on the mezzanine and in the wall of the closet-bed in the planetarium room are the pendulum clock and the ropes with weights that drive the Planetarium **<11-13>.** In the upper zone there are several dials that indicate phenomena such as the time of rising and setting of the moon.

11. Pendulum clock on the mezzanine.

13. Cords with weights in the closet-bed wall.

12. Pendulum clock on the mezzanine.

Ceiling Planetarium

In order to fit the solar system, as it was known in those days, in this room, Eisinga reduced reality 1 trillion (1000 billion) times. This means that 1 millimetre on the ceiling corresponds to 1 million kilometres. Consequently, the Planetarium, ending at the orbit of the planet Saturn, has a diameter of 3.2 metres.

Our central star, the sun, is painted in the centre of the ceiling. Eisinga was familiar with the fact that the sun stood still, so painting sufficed. Around it, the orbits of the six planets known at the time can be seen. These miniature planets orbit the sun at the same time as their natural examples, and their positions, like those of the moon, correspond to the actual positions in the solar system.

In addition, the Planetarium shows much more than just the movements of the planets **<14>.** On the ceiling and on the wall above the closet-bed, various pointers and markings have been applied. These indicate:

- information about the planetary orbits (declinations, farthest and near points, ascending and descending nodes, distance to the nodes expressed in degrees). On the basis of this information, Venus and Mercury transits can also be read;
- the date (day and month);
- the position of the sun in the zodiac (with accurate degree distribution);
- the declination of the sun (with vernal and autumnal equinoctial points), readable per day with accurate scaling, display of seasons;
- day of the week, with hour division;
- the actual year;
- times of rising and setting of the moon;
- the lunar phases;
- the position of the moon in the zodiac;
- the position of the farthest point of the moon in the zodiac;
- the distance of the moon relative to the farthest point of its orbit (expressed in zodiac signs and degrees);
- the position of the north node of the lunar orbit in the zodiac;
- the distance of the moon relative to the north or south node (expressed in zodiac signs and degrees). With the aid of these pointers, solar and lunar eclipses can be read;
- the 'Square of Heaven', with the movement of the sun and the starlit sky, with both the relative diurnal and the annual motion of the sun;
- rising and setting of the sun (taking into account the correct length of the day); and
- the correct time of day, expressed in local (Franeker) time.

The Royal Eise Eisinga Planetarium educates the public about the solar system and provides an insight into the heliocentric worldview – the worldview that says that the earth, like the other planets, revolves around the sun and is not at the centre of the universe. It is the oldest continuously functioning model of the solar system in the world.

Cogwheels

The ceiling planetarium is driven by cogwheels, visible from the top floor, consisting of dozens of wooden wheels, axles, pinions and discs, fitted with approximately 6,000 nails that act as 'teeth' **<15>.** A central pendulum clock and nine weights drive all the system's functions. Apart from the traditional clock that sets the cogwheels in motion, which consists of metal parts, the Eisinga Planetarium is largely made up of wooden parts. In that respect it is unique, but this has not been at the expense of its accuracy: it can compete with the best planetariums of its time.

The wooden gear is maintained in accordance with Eisinga's 1784 instruction book. Over time, some additions were made to the cogwheels to keep them going. During the restoration in 1997, these additions were removed, returning the system as much as possible to its original state. Wherever possible, authentic materials have been used and/or parts manufactured in accordance with the original version.

During a bombing raid on the city of Franeker in World War II, damage was caused to the cogwheels. After the war this was repaired, which involved the replacement of the wheel of Mercury.


3,2 meters = 3,2 billion km
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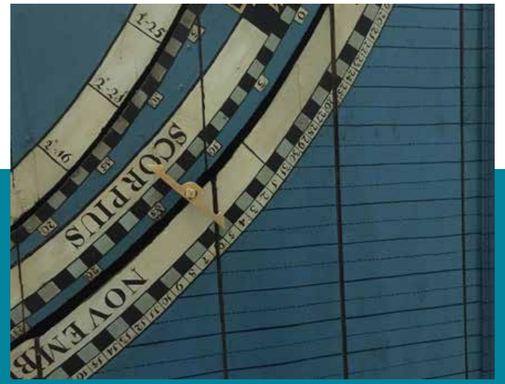
11

Around the sun the orbits of Mercury, Venus, Earth and Mars can be seen. The planets orbit the sun in 88, 224, 365 and 687 days respectively. Close to the earth there is another small sphere: the moon. Just like in reality, this moon rotates around the earth in 29.5 days. Outside the orbit of Mars, the planets Jupiter (11 years and 315 days) and Saturn (29 years and 164 days) orbit the sun. The largest moons of these planets are also shown. The other planets were only discovered after the Planetarium was built and are therefore missing. The spheres are half gilded and half painted black, indicating day and night sides. The distances of the planets are to scale, but the planet spheres are not: if they had been, the earth would have become invisibly small. In reality, the planetary orbits are not circles but ellipses, with the sun in one of the focal points. Consequently, the distance of a planet to the sun is not constant. This is approximated by eccentrically placing the circular orbits in the correct directions. The greatest distance is called the farthest point (VP) and the smallest distance the nearest point (NP). These points are also marked on the ceiling. Besides, the planetary orbits are not in the same plane as the earth's orbit around the sun – the so-called ecliptic plane. However, the inclination of the planetary orbits relative to the ecliptic is small: only a few degrees. The two points where the planets intersect the ecliptic plane are called 'nodes', with a distinction between the ascending (to the north) node and the descending (to the south) node. When a planet passes the ascending node, its distance to the ecliptic changes from negative to positive. The opposite happens when it passes the descending node. The numbers in the white circles around the planetary orbits indicate the position of the planet in relation to the nodes and how great the distance is. From this we can determine whether a planet is north or south of the ecliptic. In addition, the signs of the zodiac are painted along each planet's orbit, from which each planet's position in relation to the stars can be deduced. Outside Saturn's orbit a seventh slot has been added, through which the date hand moves. On the outside, the hand indicates the correct date (day and month) while on the inside the position of the sun in the zodiac is indicated. Parallel lines run from the date circle to the side plinths on the ceiling, on which a scale division has been applied. These lines indicate the declination of the sun throughout the year. The declination is the height of the sun in the sky, measured in relation to the celestial equator. Around 21 June, the sun reaches its highest point in the sky, while around 21 December it is at its lowest. Around 21 March and 21 September, the sun is exactly on the celestial equator. The date hand traverses the slot in one year. In the case of a leap year, the hand must be moved back one day. Eisinga made a special provision for this. The date wheel is disconnected from the central drive and set back one day. So it is 28 February twice.



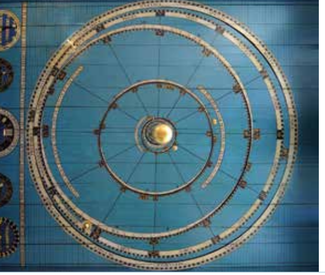
A seventh slot has been added outside Saturn's orbit, through which the date hand moves. On the outside, the hand indicates the correct date (day and month), while on the inside the position of the sun in the zodiac is indicated. This photograph shows the situation on 5 November, when the sun is at 14 degrees in the sign of Scorpius (Scorpio) and has a declination of almost -17 degrees.

The solar system in the living room

In order to accommodate the solar system in his living room, Eise Eisinga had to shrink reality by a factor of 1 trillion (thousand billion). This means that one millimetre on the ceiling in reality equals one million kilometres! On the ceiling he depicted the solar system with the sun in the centre and the planets that were known at the time around it. In addition to the solar system, all kinds of hands were installed on which the current data about our solar system can be read on a daily basis. In the centre, the sun is represented by a star. Around the sun several slots have been cut out, through which the planets move. The planets are suspended like spheres from metal rods that protrude through the slots in the ceiling.

The cog mechanism dissected

All the planets, hands and clocks of the Eisinga Planetarium are driven by an elaborate system of oak hoops and discs, fitted with thousands of hand-forged nails. This cog mechanism is powered by a pendulum clock with one weight. This clock only ensures the correct speed: the driving force is provided by eight weights connected to the main axes of the cog mechanism. The pendulum of the clock swings eighty times per minute. During the year, the pendulum length has to be slightly adjusted, due to temperature changes. Absolutely everything is powered by this clock: for example, the planets up to and including the hand indicating the ever-changing times of moonrise and moonset. To achieve this, Eisinga made use of eccentric wheels, on which nails (acting as 'teeth') are placed in such a way as to make the wheel rotate at varying speeds. Such an eccentric wheel engages with the pins of a so-called lantern pinion (two parallel discs connected with long pins), so that the engagement will continue to exist. The hoops that set the planets and also the date hand in motion are supported and held in place by wooden rollers. A hoop of this kind is located above every slot in the underlying ceiling.



01 • The planets in the Planetarium move clockwise, which means that we are looking at the solar system from the south side.

02 • The moon moves within a fixed path across the sky, just like the sun and the planets. This path also contains the constellations of the zodiac. These constellations can be seen as a band in the sky where we can always find the sun, the moon and the planets. This clock indicates which constellation the moon is in.

03 • The complex interplay of the movements of the earth, the moon and the sun causes the farthest point of the lunar orbit to shift over a period of 8 years and 311 days.

04 • Above the closet-bed there are five dials on the ceiling. The middle one indicates the correct day of the week. The correct (local) time can also be read. The days of the week are named after the seven celestial bodies that were known at the time: Sunday (the sun), Monday (the moon), Tuesday (Mardi – Mars), Wednesday (Mercredi – Mercury), Thursday (Jeudi – Jupiter), Friday (Vendredi – Venus) and Saturday (Saturn). The names of the days also correspond to the names of Germanic gods such as Wodan, Donar and Freyja. This dial also has a rectangular opening in which the correct year can be read. On 31 December, around four o'clock in the afternoon, the year indicated starts to shift and at midnight the new year appears. The board on which the years are painted must get a new series of years every 22 years.

05 • The complex interplay of the movements of the earth, the moon and the sun cause the lunar nodes in the sky to shift. They pass through the zodiac in a period of 18 years and 228 days.

06 • The moon is lit by the sun. Because the moon rotates around the earth, we will always see a different part of the moon being lit. This is how the lunar phases arise.

07 • Like the sun, the moon rises in the east and sets in the west. The times this takes place differ strongly. On average, the hands that indicate this are moving 48 minutes per 24 hours. The smallest time difference is 11 minutes, but it can also be an hour and a half! In order to reproduce this, Eisinga used eccentric cogwheels.

08 • The two small clocks next to the closet-bed provide information about the lunar orbit. Because the lunar orbit around the earth is elliptical, the distance from the moon to the earth is not always the same. The point where the distance is greatest is called the farthest point (VP). This point is reached when the hands of the clock indicating 'distance of the moon from the farthest point' are both at zero. That is when the distance between the earth and the moon is at its greatest. If the large hand is at zero and the small one at six, the moon is at the nearest point (NP). The moon is then nearest to the earth.

09 • Above the closet-bed is the 'square of heaven or planisphere'. Because the earth rotates on its axis in 24 hours, the sun and the stars appear to move from east to west. This disc shows the movement of the sun and the rotation of the starry sky, as seen from Franeker. The clocks next to the disc indicate the times of sunrise and sunset. As the earth rotates, it also moves around the sun. This makes the sun appear to move across the sky in a year. The disc is slotted to carry a sun figure moving through the zodiac, completing one cycle a year. The sun figure indicates the time of day on the 24 hours scale surrounding the planisphere.

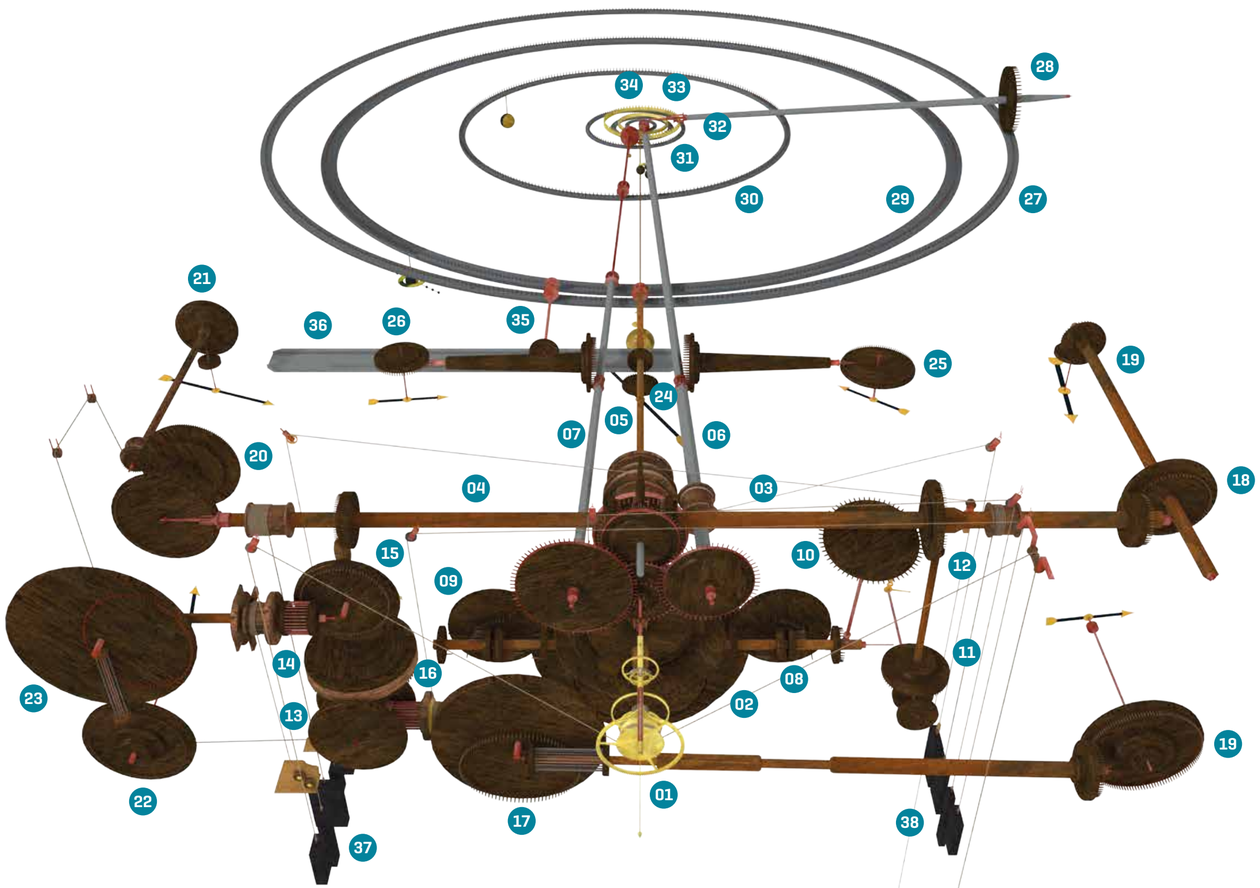
10 • The lunar orbit is somewhat at an angle in relation to the earth's orbit around the sun. As a result, one half of the lunar orbit is north of the earth's orbital plane and the other half south. Consequently, the moon intersects the earth's orbit twice during the lunar orbit around the earth. These points of intersection are called 'nodes'. One is called the ascending or north node, the other the descending or south node. When the moon is in one of the nodes, a solar or lunar eclipse can occur. If the hands of both clocks are at zero, and the hand of the moon phase is on new moon, there will be a solar eclipse somewhere in the world. In the case of full moon, there will be a lunar eclipse. Due to the complex interplay of the movements of the earth, the moon and the sun, the moon's nodes in the sky will shift. They pass through the zodiac in a period of 18 years and 228 days.

11 • This hand indicates the time the moon sets in the west.

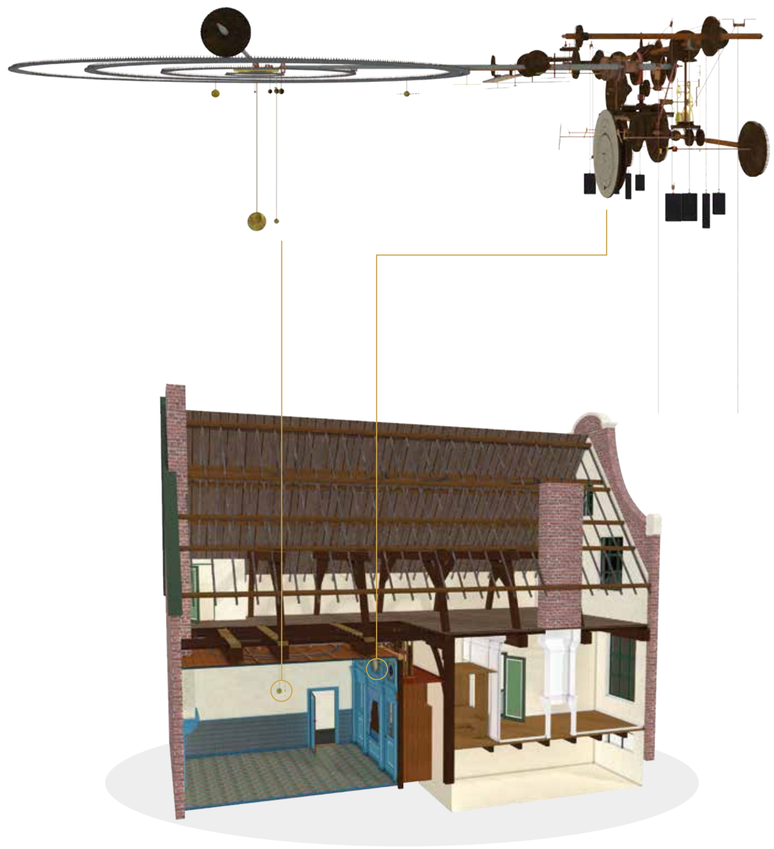
Listed below is an overview of the various components of the cog mechanism. The numbers refer to the illustration on the right.

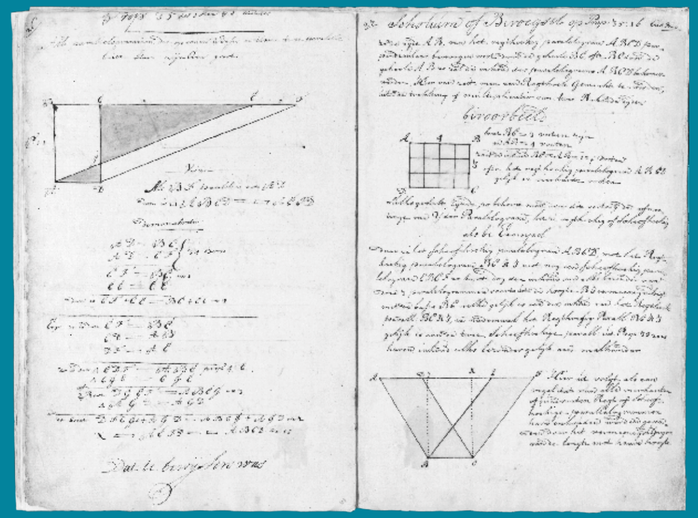
01 Pendulum clock
02 Square of heaven (four discs)
03 Farthest Point moon axis 1
04 Farthest Point moon axis 2
05 Drive date wheel and day hand
06 Drive planets Mercury and Venus and position Farthest Point moon (VP)
07 Drive planets Mars, Jupiter and Saturn and position Ascending Node moon (KK)
08 Sunrise
09 Sunset
10 Drive 'Sunrise' and 'Sunset'
11 Distance moon to farthest point
12 Drive moon to farthest point
13 Distance moon to north node
14 Transmission node wheels
15 Upper node moon wheel
16 Lower node moon wheel
17 Eccentric cog wheel, drive 'Moonrise'
18 Moonrise
19 Drive position moon in ecliptic
20 Eccentric transmission moon phases
21 Hand moon phases
22 Drive 'Moonset'
23 Transmission 'Moonset'
24 Drive day hand
25 Drive moon in VP
26 Drive moon in KK
27 Date wheel
28 Transmission drive Earth
29 Wheel Saturn
30 Wheel Jupiter
31 Wheel Mars
32 Wheel Earth and moon
33 Wheel Venus
34 Wheel Mercury
35 Drive yearboard
36 Yearboard
37 Five weights (for timepiece, date wheel, VP axis, node wheel, moon phases)
38 Four weights (axis drive of the planets Mercury, Venus, Mars, Jupiter and Saturn, and of lower node wheel and VP axis)

TOP VIEW



SIDE VIEW





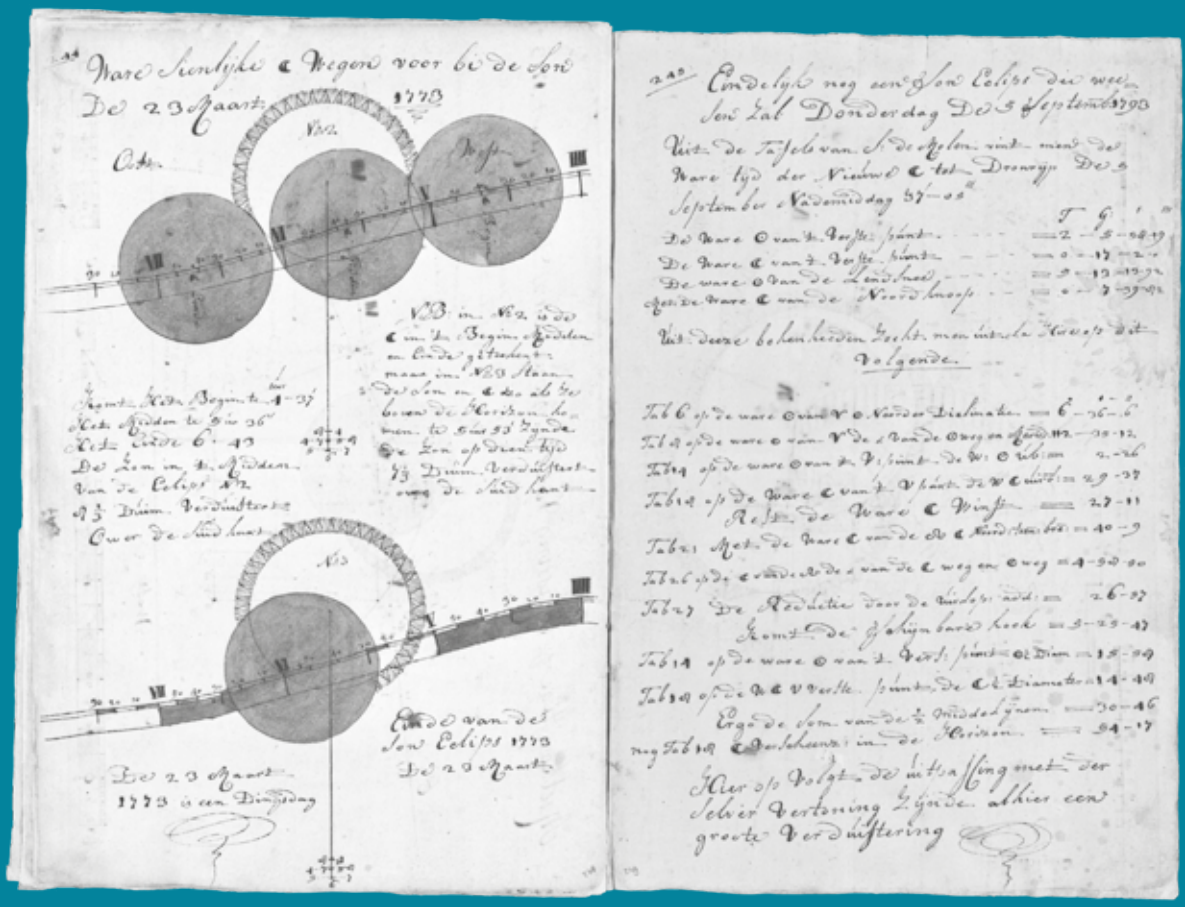
16. Mathematics book Eisinga, 1759.

Manuscripts

Eise Eisinga's heritage does not only consist of a magnificent Planetarium. Several mathematical and astronomical manuscripts by him are also known. Most of these he wrote during his teenage years. All in all, there are some 1500 pages, illustrated with a large number of beautifully executed drawings.

Eisinga may never have enjoyed any 'higher education', but he certainly had a gift for mathematics. As the son of a wool comber in Dronrijp, he obviously did not have much money to buy books. His only possessions in this field were mathematical and astronomical tables. For the rest, he compiled texts from famous mathematics books that others (including Willem Wytzes from Franeker) allowed him to consult.

His first book, dealing with mathematical problems from the works of Euclid, he completed at the age of sixteen. It is no less than 650 pages long and contains numerous sketches and drawings. In his next book, titled *Grondbeginselen der Astronomie of Starreloopkunde op een Theoretische wijze verhandelt* (Fundamentals of the Astronomy or Theoretical Discourse on the Movement of the Stars) he describes and draws, for example, celestial phenomena which interested him to a great extent, such as the course of solar and lunar eclipses. This knowledge later proved to be of considerable importance when building his Planetarium.



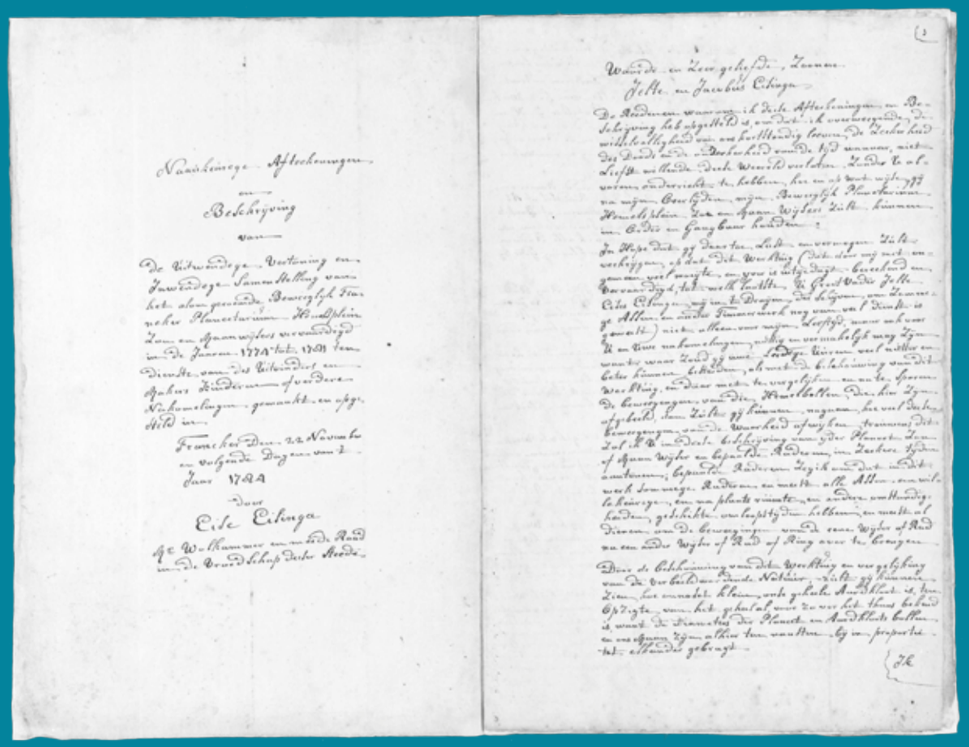
17. Description solar eclipse, 23 March 1773.

Eisinga also wrote books on sundials and school arithmetic, as well as of course a description of the construction and functioning of his Planetarium. In 1784, after the completion of the Planetarium, he wrote a manual for his children on the operation of the planetarium instrument and its required maintenance.

Eisinga wrote his books primarily for himself: they were a tool to quickly and thoroughly familiarise himself with mathematics and geometry problems. They were never published in his own lifetime. Apart from reproductions of a few loose pages, only his 1784 description of the Planetarium was published in book form in 1997.

Eise Eisinga's most important manuscripts:

- *'Grondbeginselen van de Aritmeetica of Rekenkonst'* (Fundamentals of Arithmetic or the Mathematics of numbers) (1759-1760) – 665 pages **<16>**
- *'Grondbeginselen der Astronomie of Starreloopkunde op een Theoretische wijze verhandelt'* (Fundamentals of the Astronomy or Theoretical Discourse on the Movement of the Stars) (1762) – 263 pages
- *'Gnomonica of Sonnewijzers alle door passer en lijnjaal afgepast op de Noorder breete van Dronrijp 53° 13"* (Gnomonics or Sundials all adjusted to the northern latitude of Dronrijp 53° 13" using compass and ruler) (1762) – 170 pages
- *'Son en Maan Eclipsen van 1762 tot 1800'* (Sun and Moon Eclipses from 1762 to 1800) (1762-1763) – 258 pages **<17>**
- Arithmetic Book (1765) – 85 pages
- 100 Mathematical questions and answers (1765) – 32 pages
- Instruction book on the operation and construction of the Planetarium (1784) – 2 x 90 pages **<18>**



18. Manual Planetarium, 1784.

19. Eisinga's manuscripts can be consulted digitally.

Until recently, some of the original manuscripts were kept in a display case at the Planetarium, but in order to protect these originals against (further) decay, they have been transferred to the archives of the municipality of Waadhoeke and the province of Fryslân **<19, 20>.** The ambition is to have the instruction book on operation, maintenance and repair of the planetarium instrument included in 'The Memory of the World' as soon as the Eisinga Planetarium has been designated as World Heritage Site.

20. Eisinga's manuscripts can be consulted digitally.

2.3 ELEMENTS OF THE PROPERTY

Table A. Elements of the property

COMPONENT	MATERIAL	CONDITION	REMARKS
Ceiling with painting and planet spheres	Wood	Excellent, being well maintained	Maintenance by professionals
Closet-bed wall with dials	Wood	Excellent, being well maintained	Maintenance by professionals
Cogwheels	Wood and forged nails	Excellent, being well maintained	Maintenance by professionals
Pendulum clock	Wood and brass	Excellent, being well maintained	Maintenance by professionals
Weights	Lead	Excellent, being well maintained	Ropes of the weights are replaced regularly

2.4 PRE-EXISTING MANAGEMENT FRAMEWORK

2.4.1 SITE USERS

The Royal Eise Eisinga Planetarium has been receiving visitors since 1781, and to this day there is an organisation aimed at receiving visitors and providing an explanation in the planetarium room. The system described by Eise Eisinga in his manual for the preservation and management of the planetarium instrument has also functioned since 1781. Since 2001, the Planetarium has been managed by the board and management of the Royal Eise Eisinga Planetarium Foundation.

2.4.2 MANAGEMENT

Since 2001, the management of the Royal Eise Eisinga Planetarium has been the direct responsibility of the Royal Eise Eisinga Planetarium Foundation. The foundation is registered with the Chamber of Commerce under number KVK 01094582 and branch number 000022572112, Eise Eisingastraat 3, 8801 KE Franeker.

The foundation's objectives are:
a. the exploitation of the Eise Eisinga Planetarium, established in Franeker;
b. performing all further activities that are related to the above in the broadest sense or may be conducive thereto (Article 2 Statutes of the Royal Eise Eisinga Planetarium Foundation).

The board of the foundation consists of five members from scientific fields (University of Groningen and scientific journalism), the financial world (accountancy) and local contacts. The day-to-day business is carried out by a director, curator and nine employees. Each of the employees has a specific task in the organisation, such as preservation and management, preparing exhibitions, and education.

21. Explanation in the planetarium room.

Within the organisation, great importance is attached to the explanation in the planetarium room **<21>.** Each of the employees is involved in this explanation, and every visitor to the planetarium room is given a professional and educationally sound explanation. Eise Eisinga took care of this from the first day that the Planetarium was opened for his guests, and after almost 250 years this is still happening almost every day.

The personal explanation in the planetarium room is one of the main reasons why visits to the Planetarium are so highly appreciated. This didactically and substantively sound explanation makes the functioning of the Planetarium clear to everyone. The well-trained team of employees feels a connection with the wide-ranging group of visitors. The story appeals to children, astronomy students, families, etc.

The explanation is provided in Dutch, German and English. An explanation in French and Frisian is also possible on request. If these languages are not appropriate for visitors, the explanation will be given by an accompanying guide from the group, who will see to the translation.

The accompanying texts in the exhibition rooms are standardly displayed in English and Dutch. In order to reach the largest possible international audience, information cards are available for each exhibition room in German, French, Spanish, Portuguese, Arabic, Russian, Italian and Frisian. Cards in more languages are being prepared.

In addition to the knowledge at the disposal of the Planetarium staff, external expertise is called upon for the maintenance of the planetarium instrument. A team has been formed in which the necessary knowledge has been brought together.

Clockmaker Jacob ten Hoeve is available as an advisor for the regular maintenance, that he carries out together with the curator. At some future stage his son, who received his training at a renowned institute in London, will be able to act as his successor. Restoration painter Klaes Posthuma takes care of the maintenance of the ceiling. He is very experienced in the field of restoration painting. For the maintenance of the wooden components, advice can be obtained from woodworker Kees van 't Veen.

During previous maintenance operations, the technical input of Hans Noordmans (1929-2014) was of great importance. The 1997-1998 restoration, for example, was carried out under his leadership. His substantial knowledge of the technology of the Planetarium is recorded in digital programmes, disc calculators and extensive descriptions of the functioning of the Planetarium. This guarantees future maintenance.

2.4.3 MUNICIPALITY OF WAADHOEKE (OWNERSHIP)

The municipality of Waadhoeke owns the building at Eise Eisingastraat 3, Franeker, including the Planetarium it accommodates and the mechanism. The owner's involvement in the World Heritage Nomination is emphasised by the mayor's membership of the Nomination Team and by the substantial support from the municipality's official organisation, led by an official representative who is also a member of the Nomination Team.

The municipality provides structural financial support for the Planetarium by granting an operating subsidy and by supporting special projects, such as the expansions of the Royal Eise Eisinga Planetarium in 2008 and 2016 with the buildings Eise Eisingastraat 1 and 2. Additional financial resources have also been made available for the preparation and implementation of the Nomination File.

2.4.4 EXTERNAL STAKEHOLDERS

Besides the Royal Eise Eisinga Planetarium Foundation, there is also the Friends of the Royal Eise Eisinga Planetarium Foundation. This foundation manages the funds raised by donors. The management of the Royal Eise Eisinga Planetarium can call on the Friends Foundation for the support of purchases, restorations or other projects.

The Royal Eise Eisinga Planetarium is affiliated with a number of organisations and trade associations, such as:
- Star of the Eleven Cities Foundation, a promotional organisation in the municipality of Waadhoeke;
- Association of Dutch-language Planetariums in the Netherlands and Belgium (PLANed);
- International Planetarium Society, Inc. (IPS);
- Dutch World Heritage Foundation;
- Foundation And Then Now (Canon of the Netherlands);
- Association of Science Centers (VSC).

The Planetarium also participates in a number of national activities:
- National Stargazing Days, under the auspices of the Royal Netherlands Association for Meteorology and Astronomy;
- National Heritage Days, under the auspices of the Netherlands Monument Land Foundation;
- Night of the Night, under the auspices of the Foundation Nature and Environment Federations.

3. *Significance and Protection*

3.1 OUTSTANDING UNIVERSAL VALUE OF THE ROYAL EISE EISINGA PLANETARIUM

3.1.1 BRIEF SYNTHESIS

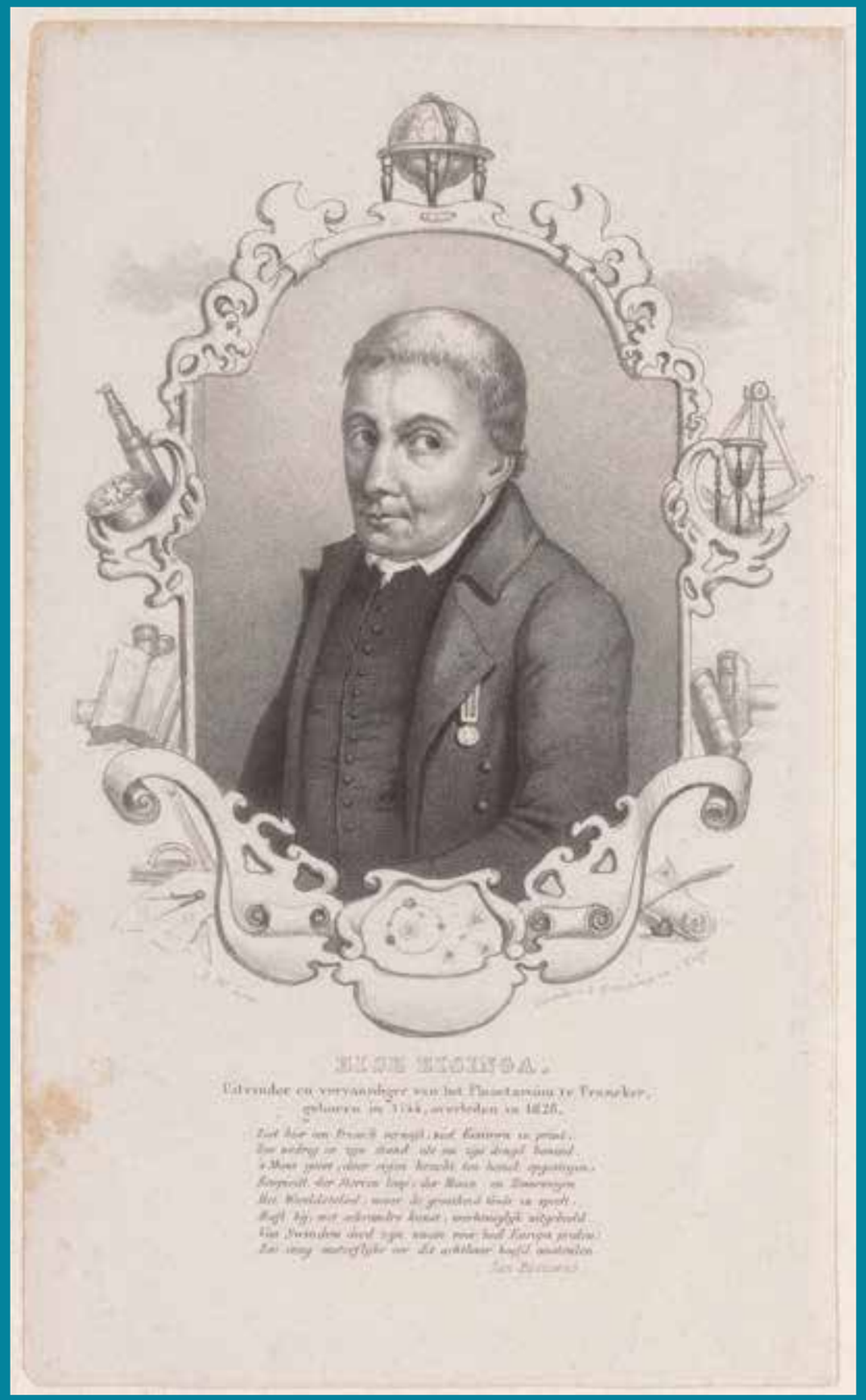
The Royal Eise Eisinga Planetarium is the oldest continuously operating planetarium (i.e. orrery) in the world. It is located in the historic centre of Franeker, one of the eleven historical cities in the province of Fryslân (Friesland), in the north of the Netherlands.

This accurately working model of our solar system was built between 1774 and 1781 by an ordinary citizen: the Frisian wool manufacturer Eise Eisinga. The mechanism consists of simple but robust components, such as wooden hoops and discs, and iron pins. It provides an up-to-date and realistic image of the positions of the sun, the moon, the earth and the five other planets that were known at the time.

The mechanism, ingeniously powered by one single pendulum clock, is built into the ceiling and at the top of the closet-bed of a living room. From the time that the planetarium instrument was completed, the room itself has continuously served as a reception and presentation area. To this day, it is open to the general public and used as an astronomical education centre.

The Eisinga Planetarium stems from a private initiative that was originally aimed at knowledgeable amateur astronomers, but soon took on a broader public function. It is characteristic of its time, in which science was increasingly being imbedded in society.

The combination of a permanent presentation, a great diversity of functions and the presence of a reception area is totally unique for a planetarium of that time. It makes the Eise Eisinga Planetarium an early predecessor of the many modern ceiling and projection planetariums. The excellently maintained instrument still functions as it did in 1781, and visitors are still given an explanation there about the functioning of our solar system – just as its maker intended.



EISE EISINGA.

Uitvinder en vervaardiger van het Planetarium te Franeker,
geboren in 1744, overleden in 1820.

Dat hier een Bouwk verrijst, met Kunsten is gemaakt,
Een wedrijf in zijn stand, als nu zijn dingt bekend.
't Moet zeker, door zijn kracht, een kond opgaanzijn,
Koopstad der Steden hoge, die Maan en Zonnegang
Met Wiskundestaal, voor de geschoolde Oude te spoor.
Hoge Ky, met schranderheid, merkwaardig uitgedacht.
Van Swanden dient zijn naam, voor het Europa gedrukt.
Zal nooit vergeten zijn, de achtbaar hoofd-maatschap

3.1.2 JUSTIFICATION FOR CRITERIA

Criterion (i): Represents a masterpiece of human creative genius

The Royal Eise Eisinga Planetarium is an iconic example of an 18th-century orrery, representing exceptional creativity in both its extraordinary technical design and execution, and artistic expression. It is the world's oldest functioning planetarium where visitors can walk in to be informed about what is happening in the skies.

The Eisinga Planetarium is ingeniously built into the ceiling and the closet-bed wall of the living room of a former civilian home. That way it was possible to build a large orrery and use the underlying room as a reception and presentation area – just as in modern planetariums.

The orrery, which is in operation almost continuously since 1781, was designed and built by an ordinary citizen, with the use of ordinary materials. This opened the way for unprecedented design solutions that resulted in a very sophisticated instrument. It allows the beholder to see the current positions of the planets and the moon at one glance.

The fact that the Planetarium is still in working order, is largely due to the creative genius and foresight of its maker, the Frisian wool manufacturer Eise Eisinga, who left detailed instructions for the maintenance of his instrument.

Criterion (iii): Bears a unique testimony to a living cultural tradition

The Royal Eise Eisinga Planetarium bears a unique testimony to the cultural tradition of presenting and providing insight into celestial phenomena, using technology. This is a universal tradition, going back thousands of years, that lives on to this day.

It still functions exactly as it did when it came into operation in 1781 and, according to the consecutive series of guest books, all this time retained its inspiring educational function – receiving and educating visitors in a space where they can see the solar system and the starry sky portrayed above their heads.

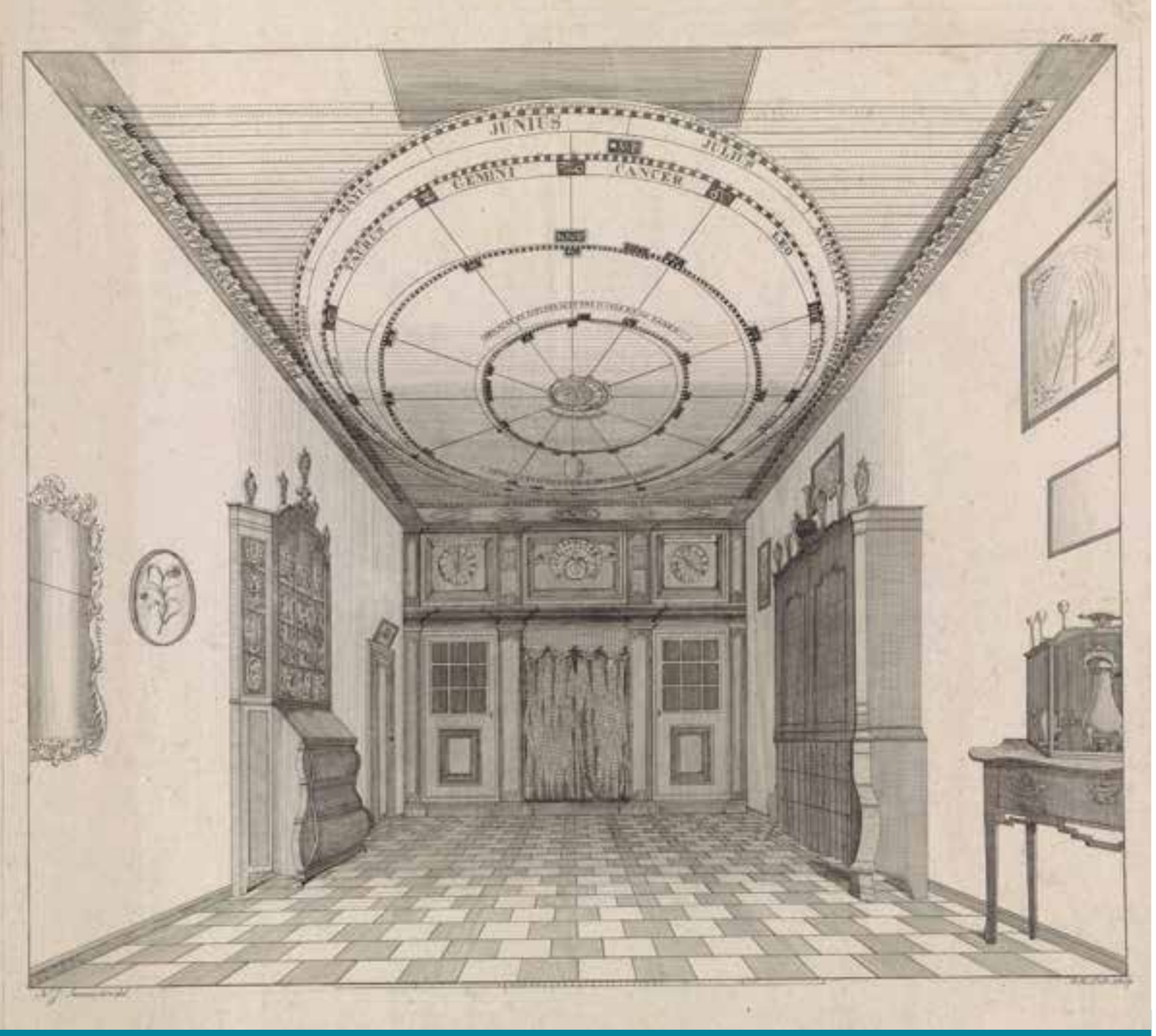
Since its completion in 1781, the mechanism has been maintained according to its maker's instructions. Thanks in part to these extensive maintenance instructions, the Eisinga Planetarium continues to present the accurate positions of the sun, the moon and the planets of our solar system.

Criterion (iv): An outstanding example of a technological ensemble which illustrates a significant stage in human history

The Royal Eise Eisinga Planetarium illustrates a significant turning point in human history: the democratisation of science, which has permanently changed society. It is typical of the importance attached to the transfer of knowledge to a wider audience in 18th-century society. The intertwining of the instrument with the ceiling and the closet-bed of an existing living room symbolises, as it were, the increasing linkage of science and society.

The Planetarium was built by an ordinary citizen and was from the outset intended and used for educational purposes. Educated citizens could read the current celestial positions of the planets at a glance, and interested laymen were given insight into the 'functioning' of the solar system, based on the explanation provided at the instrument. This makes the Planetarium an object that bridges the gap between people of different educational levels and social classes.

As a technological ensemble, it continues to contribute to the dissemination of astronomical knowledge, and in particular the heliocentric worldview, in society.

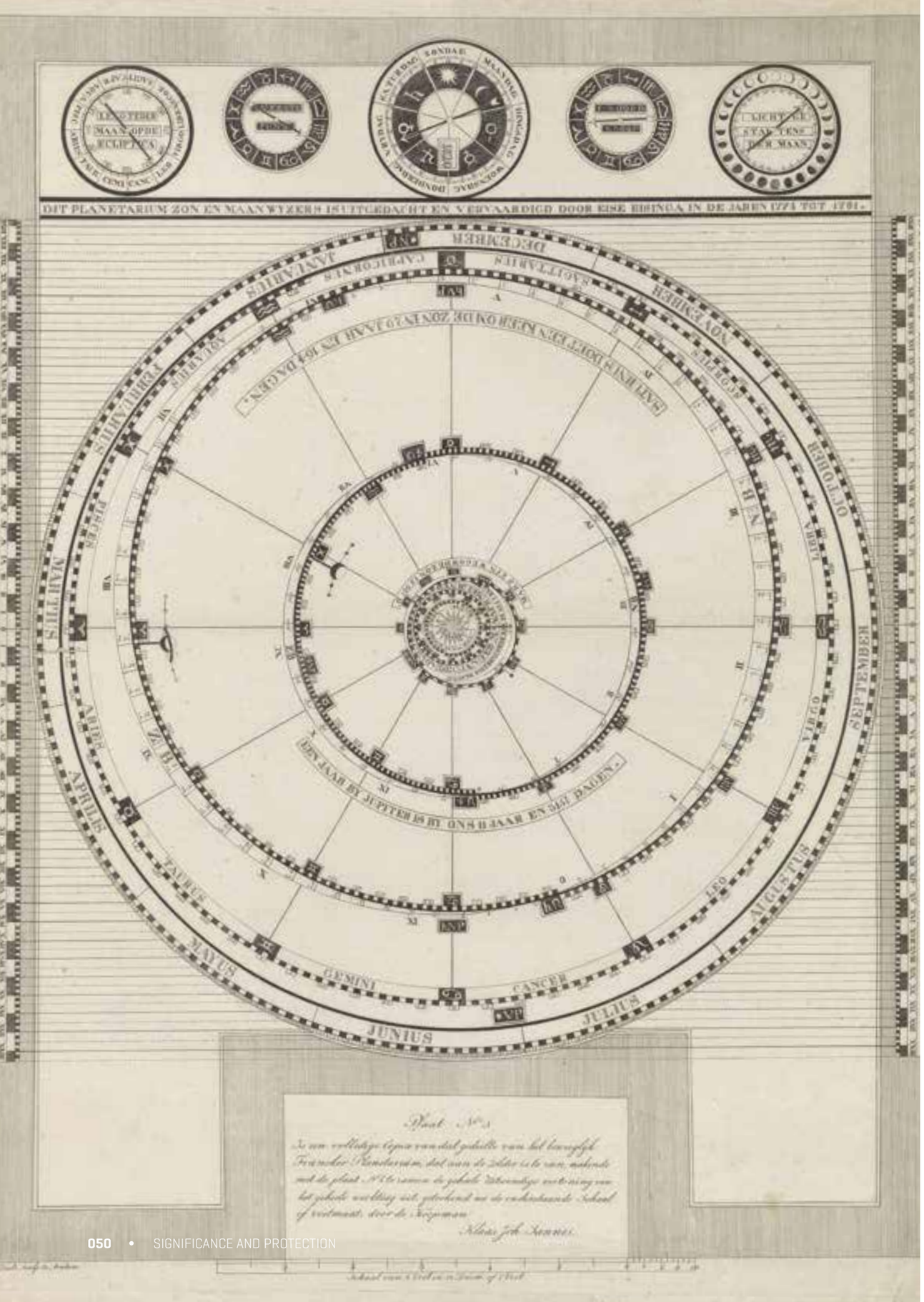


3.1.3 STATEMENT OF INTEGRITY

All the tangible elements and attributes required to express the Outstanding Universal Value of the candidate for nomination sit within its boundaries. The property is owned solely by the municipality of Waadhoeke, in the north of the Netherlands, and consists of six tangible attributes. Since the Royal Eise Eisinga Planetarium is still in full use, it is subject to wear and tear. But thanks to a very strict maintenance regime, almost all of the original parts have been preserved. The integrity of the property is therefore 100%.
The whole is inextricably linked to the building Eise Eisingastraat 3.

Table B. Diagram of attributes, their integrity, completeness and state of conservation.

ATTRIBUTES	INTEGRITY	COMPLETENESS	STATE OF CONSERVATION
The mechanism of wooden hoops and discs, fitted with approximately six thousand iron pins that function as a gear.	100%	100%	100%
The pendulum clock with nine weights that powers the mechanism.	100%	100%	100%
The ceiling, painted in Prussian blue and gold, along which the planets move, including the spheres of the sun and the earth, attached to cords, and in which five dials are fitted.	100%	100%	100%
The closet-bed wall, painted in the same colours, in which seven dials are fitted and in which the weights of the pendulum clock are hanging.	100%	100%	100%
The mezzanine above the ceiling, housing the combination of pendulum clock and cogwheels.	100%	100%	100%
The Planetarium room which serves as a reception and presentation area.	100%	100%	100%



3.1.4 STATEMENT OF AUTHENTICITY

Introduction

Although the Eisinga Planetarium has been in operation just about continuously since 1781, the instrument has retained a high level of authenticity. The character of the room it is part of has been preserved and, aside from necessary repairs, the various components of the planetarium instrument have remained unchanged since its completion. Its authenticity is confirmed, for example, by the first complete description of it, published in 1780 by Franeker professor Jean Henri van Swinden, and by the description with maintenance instructions drawn up by Eise Eisinga in 1784. Its authenticity is also reflected in the almost complete series of guest books that have been kept from the very beginning. It proves that ever since the inauguration in 1781, the workings of our solar system have continuously been explained in the room below the Planetarium.

Use and Function

The Eisinga Planetarium can be viewed at close quarters almost daily. In the planetarium room, small groups of visitors are given an explanation about the functioning of the instrument and of our solar system. This functional continuity is a crucial part of the OUV of the site. Its authenticity is reflected in the almost complete series of guest books that have been kept from the very beginning.

Form and Design

The planetarium instrument, with its various components, has remained virtually unchanged since its completion in 1781. Its authenticity is confirmed, for example, by the first complete description of it, published in 1780 by Franeker professor Jean Henri van Swinden, and by the description with maintenance instructions drawn up by Eise Eisinga in 1784.

Other documents that substantiate the authenticity of the property are the engravings by Claas Johannes Sannes dating from 1820, and the portrait painted by Willem Bartel van der Kooi of Eisinga and his Planetarium in 1827. The earliest known photographic depiction of the Planetarium dates from the period 1891-1895.

The fact that the visitor views the model of the solar system from below emphasises the spatial realism. This effect is enhanced by the correct proportions in which the distances of the planets from the sun are shown. In this respect, the Eisinga Planetarium is very special.

Material and Substance

The planetarium instrument consists mainly of wooden parts. The only metal components are the clock that drives the instrument, the pins that act as the 'teeth' of the crown wheels and gear or as the bars of pinions, and the 'hour lines' of the 'Square of Heaven' (the revolving star chart).

As noted in the Integrity section, the property has remained entirely complete, albeit that in the almost 250 years of the Planetarium's existence, some parts have been replaced or added. For example, after World War II the wheel of the planet Mercury had to be replaced, because of a bombing raid on the city of Franeker.

During the 1997 restoration, the non-authentic additions were removed and the instrument was returned to its original state, with Eisinga's handwritten maintenance instruction – which is to be found in the Franeker municipal archives and which has also been digitised – serving as a guideline. Wherever possible, authentic materials have been used and parts have been manufactured in accordance with the original version. This restoration has been excellently documented: the report is to be found in the planetarium library.

The ceiling has also been repainted and retouched a number of times. During the restoration work in 1997, a layer of wrongly composed Prussian blue, which turned greener over time, was removed.

Every twelve to fifteen years, the planetarium instrument undergoes major maintenance. In addition, the cogwheels are cleaned, lubricated and waxed annually. All this work is carried out by regional professionals, under the supervision of the curator. Because the property consists mainly of wooden parts, these are checked every two years for the presence of woodworm and longhorn beetle.

Traditions, techniques and management systems

For nearly a quarter of a century from 1825, the Planetarium was owned by the state, which saw to it that it remained open to the public and was well maintained. In 1859, the Planetarium was transferred to the then municipality of Franeker, which on 1 January 2018 merged to form the municipality of Waadhoeke. Since then, the latter municipality has guaranteed the opening and the maintenance of this outstanding cultural heritage.

The continuity of maintenance is based on the handwritten maintenance instruction compiled by Eise Eisinga in 1784. A specific part of this is the repainting of the so-called yearboard of the Planetarium, which shows the actual year and must be given a new series of dates once every 22 years – a task passed on from one curator to the next.

Ever since the inauguration in 1781, the workings of our solar system have continuously been explained, by means of a simple pointer, in the room below the Planetarium. Until 1922, this educational task was assigned to descendants of Eise Eisinga, who also lived in the Planetarium building. Since then, an external director has been responsible for the presentation. Because the number of visitors has gradually increased since Eisinga's time, the explanation can no longer be taken care of by the director alone.

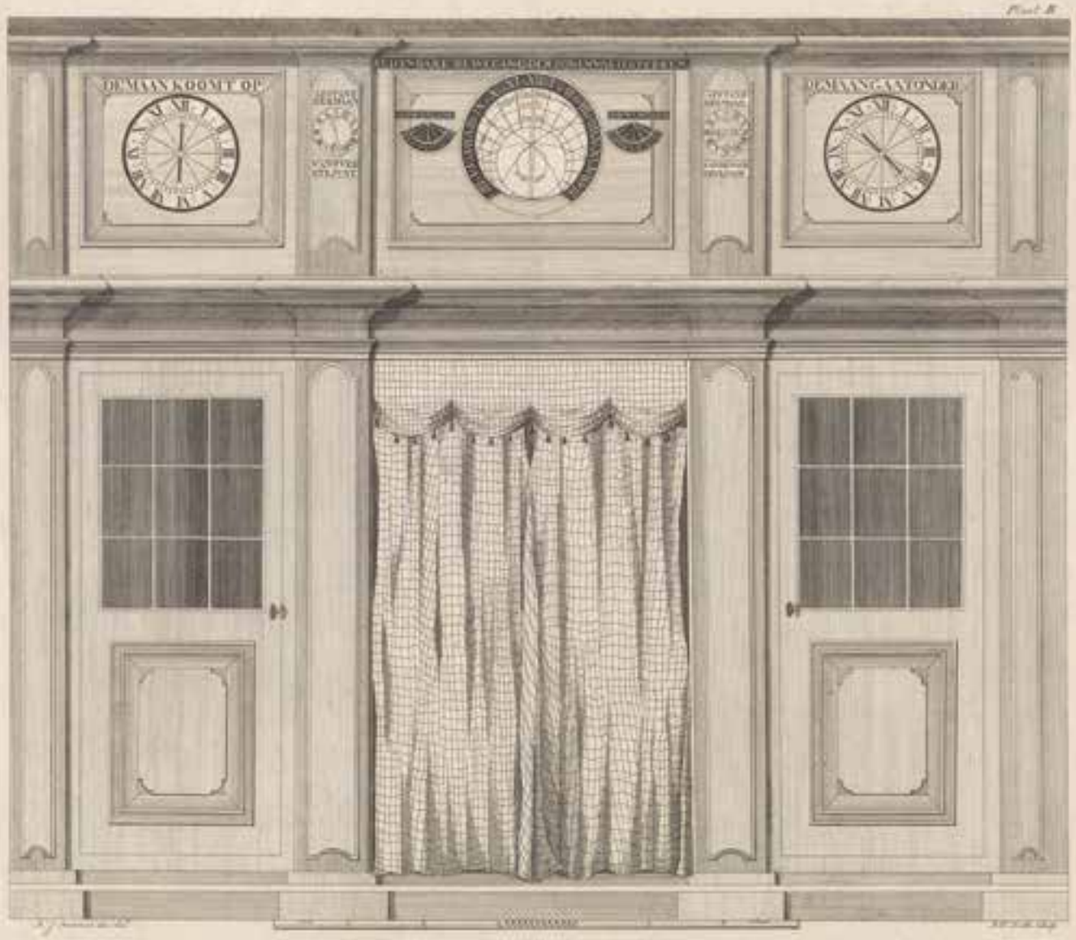
Location and Setting

The Royal Eise Eisinga Planetarium is located at
N 53°11'14.55"; E 5°32'37.51".

Since the inauguration of the Eisinga Planetarium in 1781, the nature of the property and its immediate setting has not changed substantially. The most important part of this setting is the former residence at Eise Eisingastraat 3. The planetarium instrument is inextricably linked to this building, which has consequently become an exemplary place for the democratisation of science.

The house is located in a 15th-century expansion of the city of Franeker. It is situated on the north side of a canal, immediately to the east of a bridge that used to be much wider. On the other side of this bridge, Franeker town hall is situated.

The house had its own quay by the water – an ideal place for a future wool manufacturer. Eise Eisinga moved into this building in 1768, which was also the year in which the current bell gable was built. In the rear annex he established a wool combery; between 1774 and 1781, the Planetarium was accommodated in the backroom of the front house. Since then, the house has served as the setting for the Planetarium.



3.1.5 REQUIREMENTS FOR PROTECTION AND MANAGEMENT

The former residence of Eise Eisinga, including the planetarium instrument, has been designated as a national monument by the State. A permit is required for changes to national monuments, in which respect it is carefully considered whether the plans are in accordance with the monumental values of the building. The Planetarium building is also entitled to bear the blue and white shield – the international distinguishing mark to indicate cultural heritage sites protected by the 1954 Hague Convention (a convention under the auspices of the UN and UNESCO for the Protection of Cultural Property in the Event of Armed Conflict).

World Heritage occupies a special, state-controlled position in the Environment and Planning Act. The state provides mandatory instruction rules for provinces and municipalities in order to regulate matters in their environmental ordinance or environmental plan. All the rules relating to the physical living environment are included in the environmental plan. This concerns a balanced allocation of functions to locations (comparable to the current designations), as well as rules in respect of activities with consequences for the physical living environment.

The care for the preservation of cultural heritage in the physical living environment and for world heritage will be transferred to the Environment and Planning Act, which is expected to enter into force on 1 July 2022. At that time, both the granting of permits for national monuments and the protection of protected cityscapes, townscapes and villagescapes will also be transferred to the Environment and Planning Act. Municipalities must provide adequate protection in this respect in the (municipal) environmental plan.

Another important legal protection regime applies to the status of protected cityscape of the inner city of Franeker (now part of the municipality of Waadhoeke) since 1979. The protection is not aimed directly at individual buildings, but mainly at the historical characteristics, the urban planning structure and the layout of the public space. This protection of the area has been given a key position in the zoning plan for the inner city of Franeker. The entire buffer zone falls within the boundaries of one zoning plan, namely the ‘Franeker – Inner City’ zoning plan dating from 2016.

The municipality of Waadhoeke has a structural subsidy relationship with the Planetarium. On the basis of this relationship, an annual implementation agreement is drawn up in which the tasks of the Planetarium are stipulated. Since 15 June 2021, the Planetarium is also included in the subsidy structure of the province of Fryslân.

The municipality has committed itself to the sustainable maintenance and the conservation of the Planetarium. For the supervision of these management tasks, the Royal Eise Eisinga Planetarium Foundation was established in 2001. The board of this foundation consists of five representatives from scientific fields, the financial world and the local community. The day-to-day business is carried out by a managing director and nine employees.

The property has been maintained in accordance with the handwritten maintenance instruction drawn up by Eise Eisinga in 1784. In this instruction, it is described in detail how the planetarium instrument works, and also how certain parts can be removed and put back. It also explains how the instrument can be adjusted if parts are out of alignment. All maintenance is carried out by experienced staff and skilled external restorers.

22. The building Eise Eisingastraat 3 is the load-bearing structure for the planetarium instrument.

3.2 ATTRIBUTES AND VALUES OF THE NOMINATED PROPERTY

All the tangible elements and attributes required to express the Outstanding Universal Value of the candidate for nomination sit within its boundaries. The property is owned solely by the municipality of Waadhoeke, in the north of the Netherlands, and consists of six tangible attributes. Since the Royal Eise Eisinga Planetarium is still in full use, it is subject to wear and tear. But thanks to a very strict maintenance regime, almost all of the original parts have been preserved. The integrity of the property is therefore 100%.
The whole is inextricably linked to the building Eise Eisingastraat 3.

The mechanism
The mechanism of the Royal Eise Eisinga Planetarium, hidden in the ceiling of the Planetarium chamber, consists of sixty wooden hoops, shafts and pinions and is driven bij a single pendulum clock **<24>.**
Major damage has rarely occured, but during a bombing raid in World War II, on the night of 25 April 1942, a bomb fell into the canal about 150 metres from the Planetarium. The vibrations brought the cogwheel mechanism to a standstill and the Mercury wheel broke in two. It was replaced by an identical one, after which the mechanism was put back into operation.
The cog mechanism is checked annually by a watchmaker. Where necessary, small parts, such as the bushings in which the shafts rotate, are replaced 'like-for-like'. In the course of the centuries, some pins have been replaced and the planet wheels were reinforced in some places.
In spite of these adjustments, the mechanism is still complete and continues to work according to its original design.

The pendulum clock
The pendulum clock was made by a local clockmaker and consists of four cogwheels with an escapement and a pendulum with a length of 70 centimetres.

23. Overview photograph Planetarium.

25. The pendulum clock with nine weights that powers the mechanism.

24. The mechanism of wooden hoops and discs, fitted with approximately six thousand iron pins that functions as a gear.

27. The pendulum clock with nine weights that powers the mechanism.

26. The pendulum clock with nine weights that powers the mechanism.

It is driven by nine lead weights with a total weight of almost 60 kilograms. They have to be raised manually, at intervals of five days to six months **<25-27>.**
The pendulum clock and the nine lead weights are still original. However, the ropes from which the weights hang are regularly replaced. Other than that, the clock and weights are in their original state and function as intended.

The painted ceiling

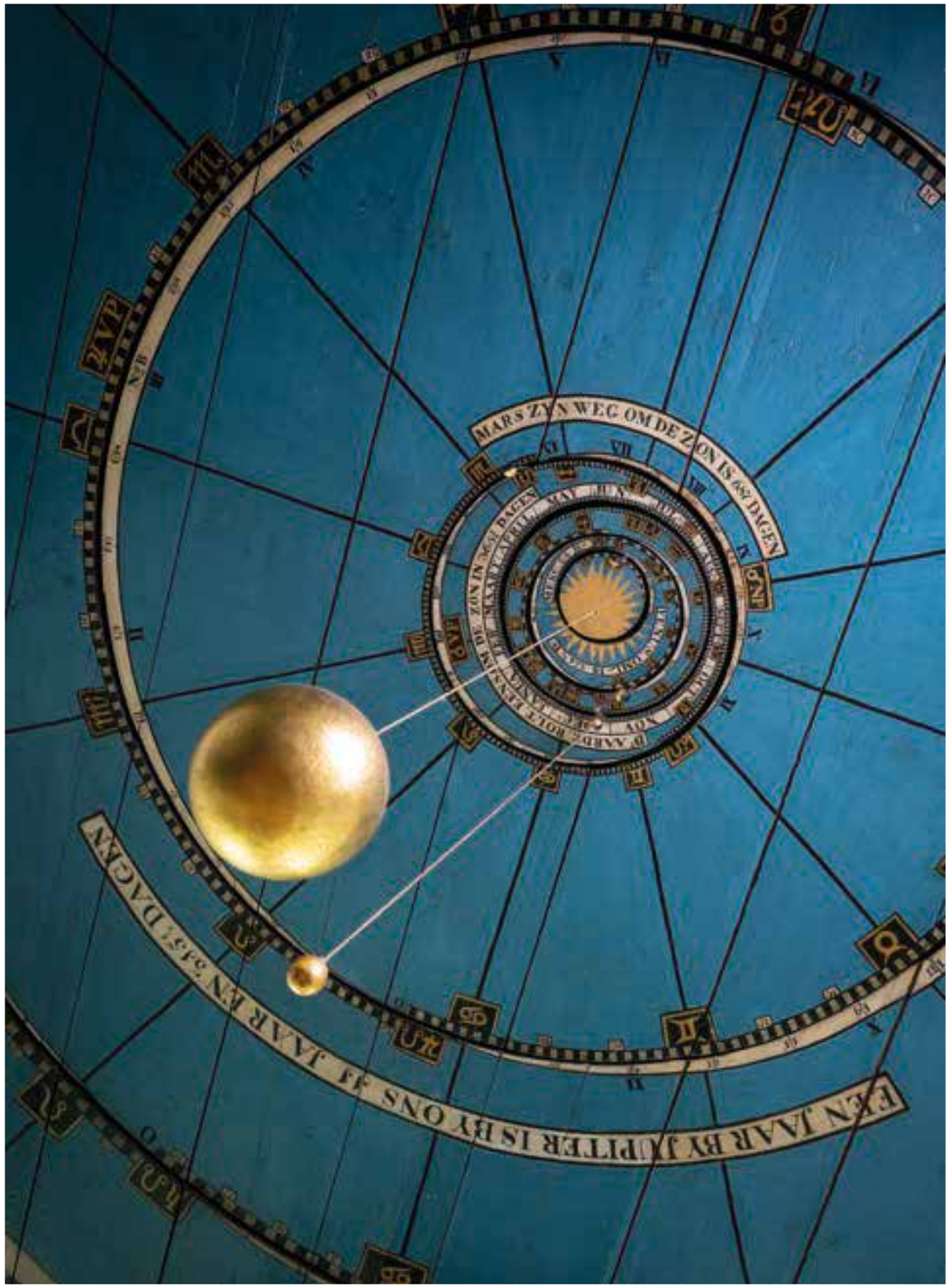
On the Prussian blue and gold painted ceiling, the sun and the then known planets are shown: Mercury, Venus, the Earth with its moon, Mars, Jupiter and Saturn. From the small dials various astronomical data can be read. All planets still move in their correct orbital periods around the sun **<28-30>.**
During major maintenance, possible minor wear spots are touched up, to keep the expressiveness of the ceiling intact. This does not affect the operation of the Planetarium.
Ceiling and dials are still fully intact and show the correct information.

The closet-bed

In the closet-bed wall, which is also painted in Prussian blue, seven small dials can be seen. The two cabinets on either side of the closet-bed hide the weights of the pendulum clock from sight. The left-hand cabinet contains four weights, with two counterweights next to them, and in the right-hand cabinet five weights are hanging **<31>.**
The dials are still fully intact and show the correct information. During major maintenance, possible minor wear spots in the paintwork are touched up, in order to preserve the appearance of the bedstead. This does not affect the Planetarium's operation.

28. The Prussian blue and gold painted ceiling along which the planets move, including the spheres of the sun and the earth, attached to cords, and in which five dials are fitted.

29. The Prussian blue and gold painted ceiling along which the planets move, including the spheres of the sun and the earth, attached to cords, and in which five dials are fitted.



30. The Prussian blue and gold painted ceiling along which the planets move, including the spheres of the sun and the earth, attached to cords, and in which five dials are fitted.

31. The closet-bed wall, painted in the same colours, in which seven dials are fitted and in which the weights of the pendulum clock are hanging.

32. The space above the ceiling (mezzanine), housing the combination of pendulum clock and cogwheels, which functions as a gear.

33. The space above the ceiling (mezzanine), housing the combination of pendulum clock and cogwheels, which functions as a gear.

34. The room under the planetarium instrument, which serves as reception and presentation area.

The mezzanine

The mezzanine above the ceiling houses the pendulum clock and the cogwheels. The ceiling itself is suspended from the beams of the house **<32, 33>.** The difference in height between the original beam structure and the suspended ceiling is 50 centimetres. For maintenance purposes, the cogwheels can be reached from the attic above.

At the end of the 20th century, windows were installed on the corridor side of the cogwheel mechanism. This was partly to prevent visitors from touching the cogwheels and partly to optimise the operation of the gas extinguishing system. This addition hasn't affected the mezzanine itself.

The Planetarium room

The room measures 4.05 by 5.40 metres – exactly the same as the ceiling showing the current position of the planets. On the south side of the room is the bed box, with a cabinet on either side. On the north side there is a modest kitchen arrangement.

In 1890-1891 the room has undergone some changes: the original wooden floor was replaced by a tiled floor, the windows on the north side were enlarged (to let in more daylight) and the walls have been panelled with tiles.

These alterations haven't affected the planetarium instrument, nor the room's function as a reception and presentation area **<34>.**

3.3 HERITAGE PROTECTION

3.3.1 OWNERSHIP

Nature of the intended siteholdership

The foundation board of the Royal Eise Eisinga Planetarium is primarily responsible for the conservation of the Planetarium. It supervises management and staff, who are charged with the implementation.

Until 1825, the Planetarium was owned by Eise Eisinga. In that year, it was purchased by King William I, as a result of which it came into government hands, with a view to the conservation of the building, which was recognised as an important monument, for many years to come. Until 1922 the management of the Planetarium remained in the hands of Eisinga and his descendants.

In 1859, ownership was transferred to the municipality of Franeker (from 1984 Franekeradeel), which from 1922 also appointed the curator. Since gaining independence in 2002, the management has been placed with the Royal Eise Eisinga Planetarium Foundation. On 1 January 2018, as a result of a municipal reorganisation, the municipality of Waadhoeke came into being, of which the city of Franeker is a part. Since then, Waadhoeke has been the owner of the Royal Eise Eisinga Planetarium.

The consistent practice of management and maintenance over a period of almost 250 years has proven to be extremely sustainable. With the gaining of independence in 2002, it was stipulated that the Planetarium (planetarium room plus mechanism) would remain the property of the municipality. This was established mainly in order to safeguard continuity: not a foundation board but the community, or the municipality, is the owner, to perpetuate the sustainability over the years.

Sustainability siteholdership

Since its completion in 1781, the Planetarium has been meticulously managed and maintained – on the basis of the instructions passed down by Eise Eisinga – with an interruption during the period 1787-1796, when Eisinga had to flee and was imprisoned and exiled on account of the patriotic uproar.

The consistent practice of management and maintenance over a period of almost 250 years has proven to be extremely sustainable. When gaining independence in 2002 it was stipulated that the Planetarium (planetarium room plus mechanism) will remain the property of the municipality. This was established mainly in order to safeguard continuity: not a foundation board, but the community, or the municipality, is the owner, to perpetuate the sustainability over the years.

In addition to the municipality of Waadhoeke, the province of Fryslân is also aware of the great cultural heritage interest represented by the Eisinga Planetarium. The involvement of the province is expressed, for example, by the fact that the King's Commissioner is also the chairman of the representative Reference Group of the Royal Eise Eisinga Planetarium.

Allocation of responsibilities and coordination

The objectives and tasks of the Royal Eise Eisinga Planetarium Foundation have been laid down in statutes filed with the Chamber of Commerce (see appendix 6). Every year, an annual report provides accountability to those involved. A certified accountancy firm issues an audited financial report. As subsidy provider, the municipality of Waadhoeke is an important partner. The subsidy relationship has been laid down in a subsidy agreement. The Friends of the Royal Eise Eisinga Planetarium Foundation supports the Planetarium in the implementation of its objectives through targeted financial aid.

For the information function, education, collection management and auditorium, the Planetarium has rooms in the neighbouring building Eise Eisingastraat 2, which has been leased from the Hendrick de Keyser Association since 2007. Since 1918, this association has been committed to the preservation of architecturally and/or historically valuable houses in the Netherlands through restoration and leasing. Acquired properties are held in perpetuity. This building is also a national monument.

Since 2016, the adjacent former confectionery Eise Eisingastraat 1 has been part of the Planetarium. The importance of the Planetarium and the recent expansion was confirmed by King Willem Alexander and Queen Maxima during an official visit on 13 June 2016.
The addition of Eise Eisingastraat 1 to the Planetarium was made possible by subsidy contributions from the province of Fryslân, the municipality of Franekeradeel (since 1 January 2018 municipality of Waadhoeke), the Cultural Heritage Agency of the Netherlands and the BankGiro Lottery.

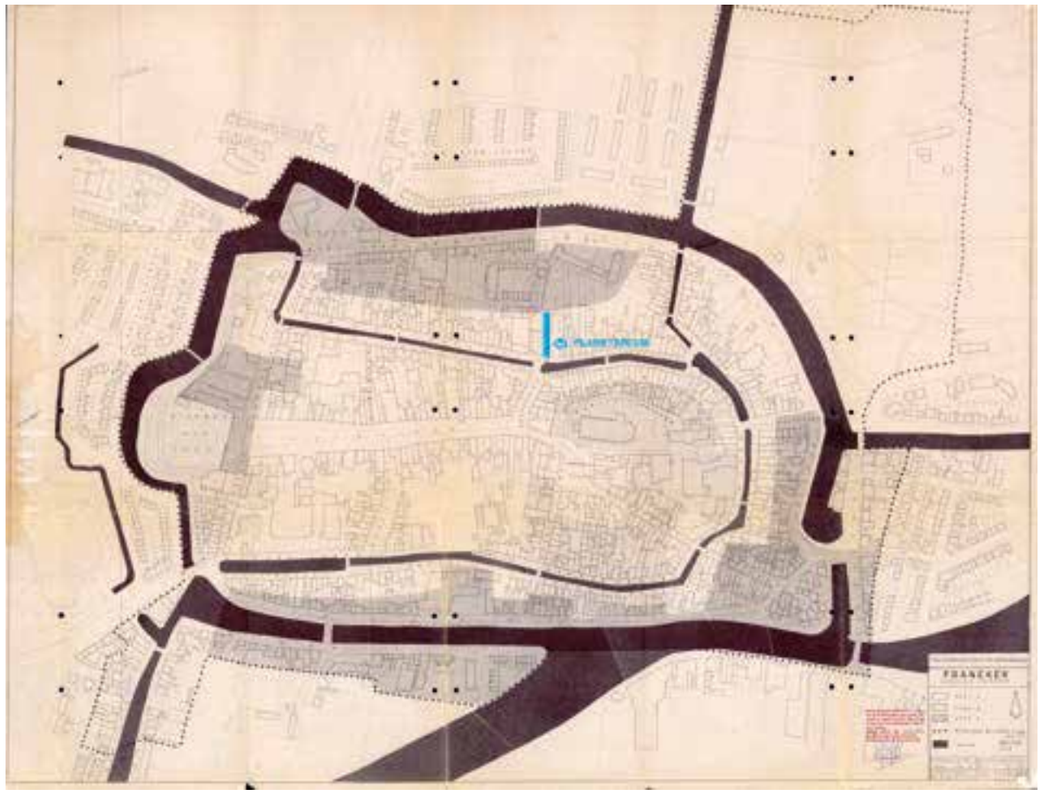
Possible risks of intended siteholdership
The current construction could mean that the Royal Eise Eisinga Planetarium is dependent upon various parties: the municipality which, as owner of the Planetarium, guarantees continuity of management but also acts as subsidy provider, the Hendrick de Keyser Association, which rents out and maintains the neighbouring building, and the tenant of the indoor Brasserie De Stadstuin. In this connection it should be emphasised that the withdrawal of the latter partners – however undesirable this may be – would not endanger the continued existence of the Planetarium: more limited operations while maintaining conservation and maintenance will always be a possibility, without the visitor capacity necessarily being negatively affected.

3.3.2 LEGAL PROTECTION

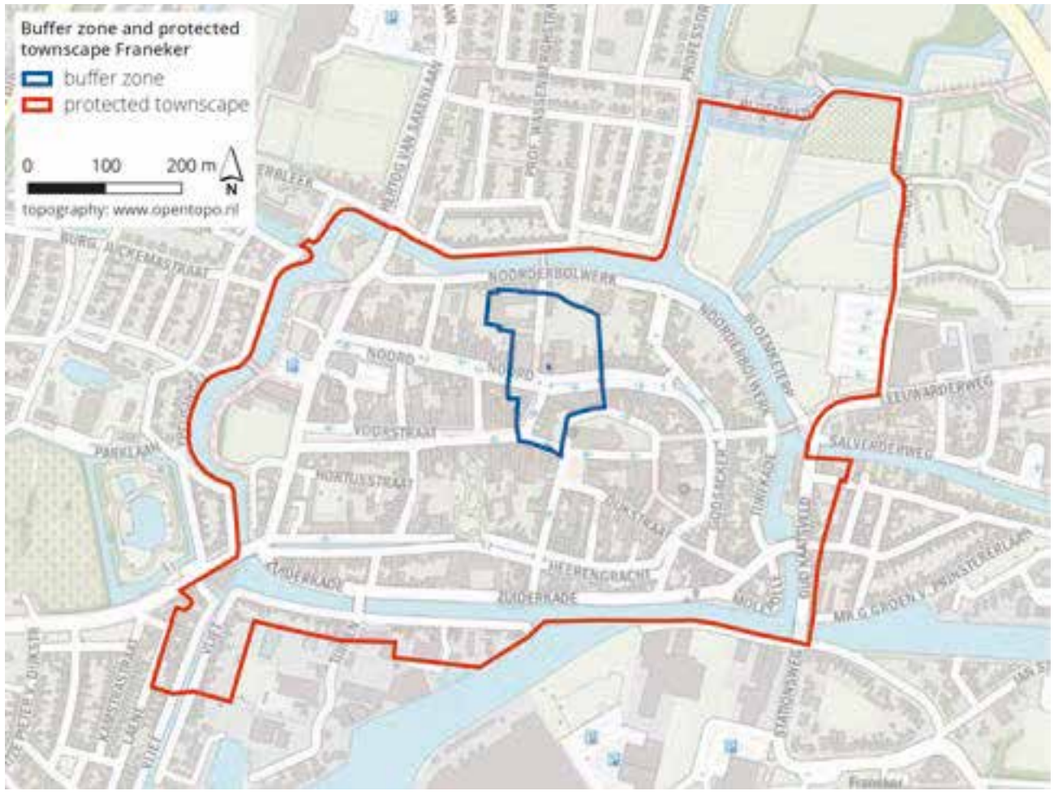
Property, attributes and the Heritage Act

The Planetarium building, including all the attributes, and more than a hundred other buildings in the historic inner city of Franeker have been designated as national monuments by the national government. On behalf of the Minister of Education, Culture and Science (OCW), the Cultural Heritage Agency of the Netherlands designates immovable property that is unique and valuable for our country. A permit is required for changes to monuments, in which respect it is carefully considered whether the plans are in accordance with the monumental values of the building. This consideration is made by the municipality, which is at all times advised in this process by the (independent) municipal advisory committee. In addition, the Cultural Heritage Agency of the Netherlands provides advice in the event of major changes, adaptive re-use, reconstruction, relocation or demolition.

The monumental Planetarium building is indicated on the map of the protected cityscape **<35>.**



35. Map protected cityscape, relating to the Designation Decree by the State Secretary for Culture, Recreation and Social Work and the Minister of Public Housing and Spatial Planning, 21 February 1979.



36. Planetarium, buffer zone (within blue outline) and protected cityscape (within red outline).

Buffer zone and protected cityscape

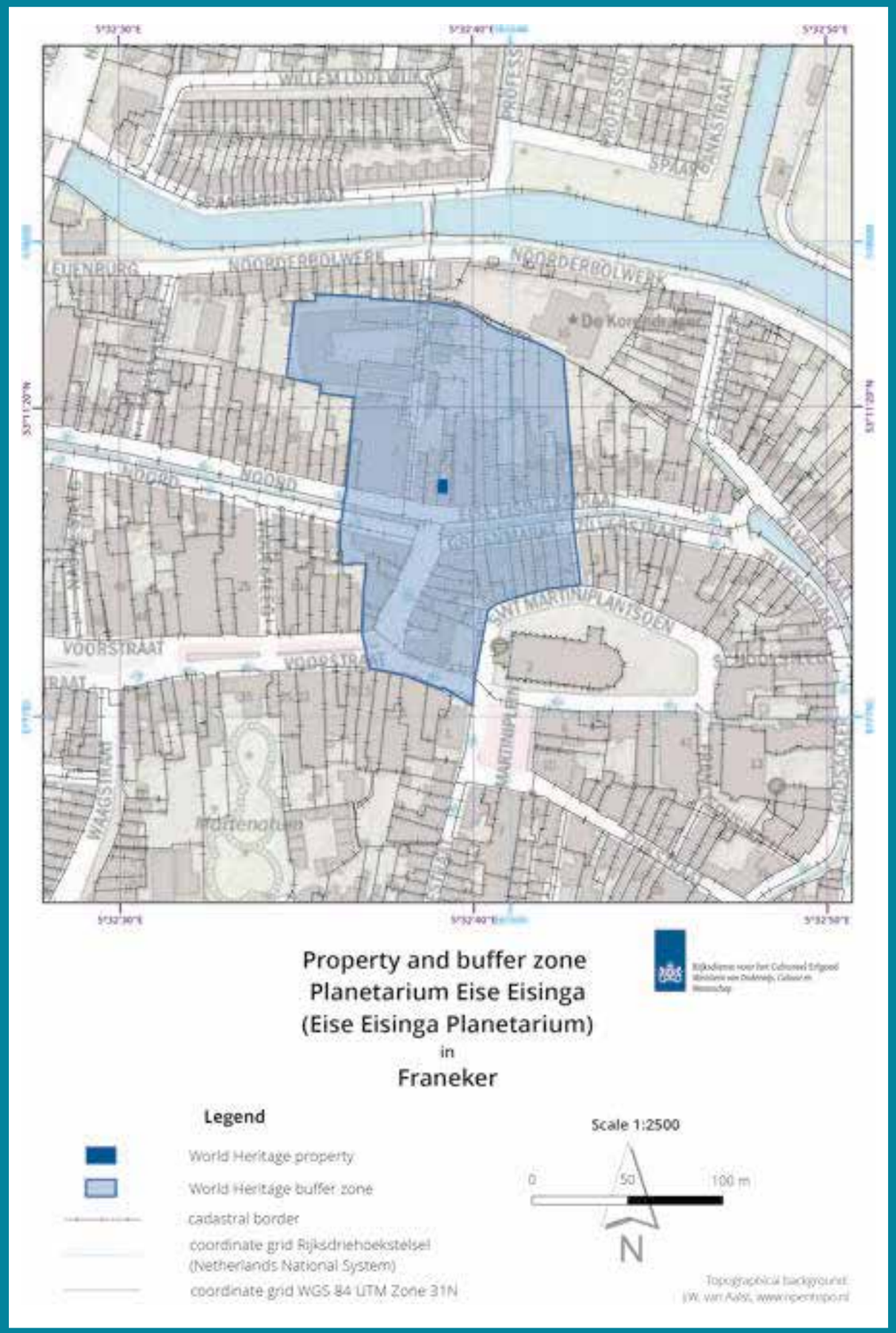
Since 1979, the inner city of Franeker – including the Bloemketerp area outside the buffer zone and an area south of the city canal – has enjoyed the status of protected cityscape. The property and the buffer zone are part of the protected cityscape.

The Heritage Act contains the following description of a protected cityscape, townscape or villagescape:
'Groups of immovable property that are of general interest on account of their beauty, their mutual spatial or structural cohesion or their scientific or cultural heritage value, and in which groups of one or more monuments are located.'

The designation is aimed at preserving the uniqueness of the area must be given an explicit place in spatial planning and development. At the request of the municipality, the Cultural Heritage Agency of the Netherlands can provide advice in this respect, as well as Hûs & Hiem (Frisian for House and Yard), the organisation for building aesthetics advice and monument care in the province of Fryslân. The protection is not aimed directly at individual buildings, but mainly at the historical characteristics, the urban planning structure and the layout of the public space. This protection of the area has been given a key position in the zoning plan for the inner city of Franeker and will have a similar position – after the Environment and Planning Act has entered into effect – in the environmental plan.

37. Planetarium, buffer zone (within purple outline) and protected cityscape (within blue outline).

38. Planetarium and buffer zone (within purple outline).



39. Map buffer zone and position property.

As described above, the national monuments and the protected cityscape are well protected legally and planologically. This protection extends to the buffer zone, which covers the immediate vicinity of the Planetarium building and is aimed at the preservation of both the spatial and the visual aspects of the property, as well as anticipating on new developments that could potentially affect the World Heritage Site.

Description buffer zone
The buffer zone concerns the immediate vicinity of the Planetarium, where the boundaries on the west and the east side coincide with the (farthest) sight lines of the Planetarium. This also applies to the south side, where Voorstraat forms the boundary of the buffer zone. The northern part of the buffer zone contains the buildings and plots directly adjacent to the Planetarium up to the site of primary school 'De Korendrager'.

3.3.3 SPATIAL PLANNING SYSTEM

The entire buffer zone falls within the boundaries of one zoning plan, namely the 'Franeker – Inner City' zoning plan dating from 2016. This zoning plan was adopted by the city council on 27 October 2016.

The starting point of this zoning plan is to consolidate the characteristics of the historical city centre. This means that spatial plans in the planning area are assessed and must meet criteria that guarantee the preservation of the historical characteristics. In order to do this as effectively as possible, a so-called area-protecting designation, namely the designation 'Value – Protected Cityscape', applies to the entire planning area. In this designation, all the grounds in the city centre are intended for the preservation, restoration and expansion of the existing cultural heritage and spatial values referred to in the 1979 Designation Decree. This Designation Decree forms an integral part of the zoning plan and is also summarised in the elaboration of the zoning plan.

The designation 'Value – Protected Cityscape' also contains a legal translation of the intention of the Designation Decree for the protected cityscape, for example building in facade lines, the corresponding desired directions of the roof ridges, facade widths and requirements for roof pitches. Another important element is the ban on total or partial demolition of buildings in facade lines (insofar as a permit is not already required under the Heritage Act). Finally, attention is also paid to the way in which the grounds in the inner city where no buildings are present, such as roads, streets, paths, parks, etc. are dealt with. For activities relating to the construction or removal of such works a permit is required, in which respect assessment must again take place on the basis of the present cultural heritage and spatial values, as referred to in the 1979 Designation Decree.
The zoning plan for the inner city provides an elaboration of the instruction in the Designation Decree to ensure appropriate protection of the protected cityscape.

The Environment and Planning Act is expected to enter into force as from 2022. Through this Act the government means to simplify, and where possible merge, rules for the physical living environment. The Planetarium will also be well protected within the regime of the Environment and Planning Act, comparable to the current provisions in the zoning plan. More about this below.

Environment and Planning Act

By 2029 at the latest, every municipality must have an environmental plan that meets all the legal requirements of the Environment and Planning Act. In the transitional phase, from 2022 until 2029, municipalities will be working towards this. At the start of the transitional phase, the rules as we currently know them will continue to apply in the form of a temporary part of the environmental plan. This temporary part will include the provisions of the locally applicable zoning plans, the municipal Heritage Ordinance, and the Building Aesthetics Policy Document. It also includes the so-called 'dowry'. The dowry consists of government regulations that currently already apply, but will be transferred to the municipalities under the Environment and Planning Act. These regulations will continue to be included in the temporary part until the municipality has incorporated them (whether or not in modified form) in its final environmental plan. The aforementioned is administered via the Implementation Decree Environment and Planning Act.

After 2029, regulations in the temporary part of the environmental plan will no longer be allowed. This follows from article 22.6, paragraph 3, of the Environment and Planning Act. Consequently, until 2029 the municipality can cancel the regulations from the temporary part and convert them to the new part of the environmental plan. In the context of the conversion, the municipality is allowed to change the regulations, in which case it should, of course, take into account the fact that appropriate protection of the protected cityscape must (continue to) take place. Ultimately, the environmental plan must contain a so-called balanced allocation of functions.

Environment and Planning Act and (World) Heritage
The Environment and Planning Act requires that the municipality must take due account of the importance of the preservation of cultural heritage and the preservation of the Outstanding Universal Value of World Heritage. Article 2.28 of the Environment and Planning Act states that mandatory instruction rules apply to the environmental plan. These instruction rules are included in articles 5.130 and 5.131 of the Decree on the quality of the living environment. The latter article is especially imperative. It literally states that in the environmental plan the importance of the preservation of the Outstanding Universal Value of World Heritage should be taken into account. Loosely translated, this means that after the Planetarium has been designated as a World Heritage Site, the environmental plan should be adapted to do justice to the designation and the associated protection of this World Heritage Site.

Building Aesthetics
Within the municipality of Waadhoeke, the Advisory Committee on Spatial Quality (included in the joint arrangement Hûs en Hiem - Frisian for 'house and yard') is responsible for building aesthetics advice. All environmental permits for the construction or renovation of a structure are submitted to this committee for assessment. This also applies to changes to national monuments.

The Advisory Committee on Spatial Quality is an independent advisory committee, that assesses building plans against the building aesthetics criteria established by the municipal council, as included in the Building Aesthetics Policy Document. In view of the protected status and the valuable character of the inner city of Franeker, it is obvious that stricter criteria apply to the area within the boundaries of the protected cityscape.

It is evident from the Building Aesthetics Policy Document that plans should not only be assessed as separate entities, but also in conjunction with the environment. In this way, the characteristic street and building image of the historic inner city is safeguarded. For the protected cityscape, this means that the preservation or the reinforcement of the unique character of the historic inner city will always primarily be the starting point. It is worth mentioning that the Building Aesthetics Policy Document, too, will eventually become part of the environmental plan, obviously based on the framework of the Environment and Planning Act.

Building options Planetarium
The designation of both the Planetarium and the adjacent Brasserie De Stadstuin, including the gardens behind it, is 'Culture and leisure'. This is the appropriate designation for a cultural tourist attraction such as the Planetarium.

Around the Planetarium there is a building area, within which main buildings are permitted. Given the designation, these buildings should be seen as the most important structures on the plot. On the street side, this building area corresponds to the facade line of all the adjacent buildings. The permitted gutter height of a main building is seven metres. The maximum ridge height is eleven metres.

In addition, associated structures are permitted, which must be built in line with the front facade (i.e. in the backyard area). The combined surface area of associated structures per main building should not exceed 100 square metres, provided that the combined surface area of the associated structures does not exceed fifty per cent of the yard. The gutter height of an attached outbuilding may not exceed the construction height of the first floor of the main building attached to which it is being built. If a free-standing associated structure is realised, the maximum gutter height should be 3.5 metres and the maximum construction height six metres.

Adequate regulations
The inscription of the Planetarium on the UNESCO World Heritage List does not entail any new rules. The wide range of existing regulations, primarily aimed to preserve and where possible reinforce the unique appearance of the historic inner city of Franeker, ensures that no undesirable spatial developments are to be expected for the Planetarium building and the surrounding buffer zone. In addition to this, a so-called duty of care will apply under the Environment and Planning Act. Those who carry out activities that concern the World Heritage Site and who know or can reasonably suspect that such activities may lead to damage or destruction of the World Heritage Site or a part thereof, are obliged, insofar as this affects the Outstanding Universal Value, to take any measures that can reasonably be requested from them in order to prevent this damage or destruction.

4.
Key issues

4.1 BASELINE CONDITION

4.1.1 INTRODUCTION

The attributes of the OUV of the nominated property constitute a physical unit. The characteristic canal house serves as a load-bearing structure for the Planetarium. They are an inseparable historic entity.

For the Baseline Condition, the legal protection provided by the national government, the solid municipal site holder, the effective administration, and the traditional and expertly executed management are of unconditional importance for the conservation of the property. This powerful coalition of allies structurally constitutes a literal guarantee for the propulsion of the Planetarium.

4.1.2 PRESENT STATE OF CONSERVATION OF ATTRIBUTES

Maintenance

Every two years, the building that houses the Planetarium is technically inspected by Monument Watch. Since 1973, Monument Watch has been dealing mainly with independent architectural inspections of monuments. In the Netherlands, more than 100 Monument Watchers and construction consultants are active. Based on a combination of education, training and work experience, Monument Watchers have extensive knowledge of historical building techniques, building materials and the best conservation techniques. Monument Watch Fryslân helps monument owners with the periodic maintenance of their monument. Our Monument Watchers carry out maintenance inspections, give practical tips and deal with minor (emergency) repairs in and around the monument. The Planetarium itself (ceiling and mechanism) is also regularly checked and maintained. The basis for this was laid in 1783 in a manual written by Eise Eisinga for his sons. The knowledge gained during this work is passed on from one curator to the next, on the basis of Eise Eisinga's original instructions and the (digital) documentation of knowledge and experience. After Eisinga's death in 1828, curators have always been responsible for the conservation and the maintenance of the Planetarium.

Once a year the cogwheels are cleaned and waxed, and also checked by a clockmaker and the director-curator. The work carried out is recorded in restoration reports. In the past, various clockmakers have performed maintenance (as evidenced, for example, by the texts found on the cogwheels).
Every twelve to fifteen years, the Planetarium undergoes extensive maintenance. This involves cleaning the ceiling and, if necessary, touching up bad spots. The cogwheels are taken apart, cleaned and readjusted.

40. Extensive maintenance.

41. Extensive maintenance.

The most recent extensive maintenance took place in January 2013. An active restoration team is available for this task (Jacob ten Hoeve, clockmaker; Kees van 't Veen, restoration woodworker; Klaes Posthuma, restoration painter). Maintenance activities are recorded in reports, which are stored both physically and digitally in the Eisinga Planetarium.
All historical manuscripts and guest books have been restored and digitised, in collaboration with 'Tresoar' Friesland Historical and Literary Centre, the Royal Library The Hague and the Groningen Archives.

Restoration
The restoration of the Planetarium in 1998 was carried out by professionals (Klaes Posthuma, restoration painter; Jacob ten Hoeve, clockmaker; Kees van 't Veen, restoration woodworker; and Hans Noordmans, project manager) **<42>.** The reason was the fact that the planetarium instrument regularly jammed. Over time, all kinds of additions had been made to the cogwheels in order to keep them going. During this restoration, these additions were removed and the system was returned as far as possible to its original state. Where possible, authentic materials were used and/or parts manufactured according to the original version (such as nuts with notches and hand-turned screw threads). The paintwork in the room was also dealt with. It turned out that a layer of Prussian blue of the wrong composition had been applied over the original paintwork, probably in the 1930s. Fortunately, the adhesion between this layer and the original layer was not very good, making it fairly easy to remove. All actions have been extensively documented in a restoration report.
For his role in the conservation of the Planetarium, Hans Noordmans was posthumously awarded the Silver Carnation of the Prince Bernhard Culture Fund on 17 June 2014, presented by Princess Beatrix. The way in which the maintenance was carried out and documented was an important reason for granting the award. Conservation and maintenance are aimed at preserving Eisinga's original work. The presentation (ceiling with dials, celestial bodies and cogwheels) has remained unchanged.

42. Restoration 1998, project manager Hans Noordmans, saying "That must be the most difficult bit..."

Overview regular maintenance
Regular maintenance is financed out of the current budget, which includes entries for the maintenance of items listed below. For the maintenance of the Planetarium (ceiling and mechanism) the designation funds 'conservation' and 'major maintenance' have been established. The funds for the budget come from a long-term subsidy agreement with the municipality of Waadhoeke and from income generated from entrance fees and retail sales.

The regular maintenance of the Planetarium consists of the following activities:

- cleaning of the building (six times per week during the busy summer; three times per week during the winter period);
- monthly maintenance of the windows;
- monthly maintenance and inspection of fire and intrusion security system;
- annual maintenance of cogwheels (cleaning and waxing);
- annual maintenance and check of extinguishing agents;
- annual cleaning interior showcases and collection;
- annual maintenance paintwork **<43>;**
- two-yearly inspection by Monument Watch (the condition of the building as well as the presence of woodworm and longhorn beetle);
- every twelve to fifteen years major maintenance.

43. Maintenance paintwork.

Table C. Diagram of attributes, their integrity, completeness and state of conservation.

ATTRIBUTES	INTEGRITY	COMPLETENESS	STATE OF CONSERVATION
The mechanism of wooden hoops and discs, fitted with approximately six thousand iron pins that function as a gear.	100%	100%	100%
The pendulum clock with nine weights that powers the mechanism.	100%	100%	100%
The ceiling, painted in Prussian blue and gold, along which the planets move, including the spheres of the sun and the earth, attached to cords, and in which five dials are fitted.	100%	100%	100%
The closet-bed wall, painted in the same colours, in which seven dials are fitted and in which the weights of the pendulum clock are hanging.	100%	100%	100%
The mezzanine above the ceiling, housing the combination of pendulum clock and cogwheels.	100%	100%	100%
The Planetarium room, which serves as a reception and presentation area.	100%	100%	100%

4.2 THREATS AND RISKS

Introduction

Although many risk-mitigating measures have been organised and implemented, negative influence or threats can never be ruled out completely, both in terms of property-related factors and environmental factors.

The property may be affected or threatened by property-related factors such as:

- Spatial pressure on the Planetarium due to unexpectedly steep increase of visitor numbers. Provisions have been made for this, such as proper maintenance, a sound security system and an already existing visitor management system for limiting the number of visitors and, if necessary, registration via the website.
- Fire: the Planetarium has an automatic detection and extinguishing system, while the fire brigade is very alert where the Planetarium is concerned. The fire brigade has a well-equipped station in Franeker, and in the event of a fire alarm, two fire engines can reach the location of the fire within eight minutes. Keeping emergency routes clear is a top priority for the municipality, the police and the fire brigade, so that the Planetarium is easily accessible for emergency services at all times.

The property may be affected or threatened by environmental factors such as:

- Earthquakes and subsidence as a result of salt and gas extraction;
- Flooding as a result of a calamity (dykes breaching or flooding; the probability of this in Fryslân, based on the standard frequency in the Water Act, is on average once every 4,000-10,000 years);
- Climate change resulting in sea level rise and an increase in the number of severe autumn storms;
- Heavy and/or dangerous transports.

The chance is very small that one or more of these environmental factors will occur. Nevertheless, it will be examined to what extent further risk-mitigating measures are possible.

4.2.1 DEVELOPMENT PRESSURES

Environmental risks

The Planetarium is located in the centre of Franeker and is legally protected. The layout and management of the Planetarium do not entail any special risks. It is an institution without the use of hazardous substances or equipment. There are no companies located in the immediate vicinity of the Planetarium where activities take place that involve special substances or materials that could pose a danger to the environment.
There is no danger for the OUV and attributes.

The Planetarium is located within the protected cityscape of Franeker, together with almost 150 other buildings that are protected as national monuments. The buffer zone of the Planetarium is located fully within the protected cityscape and mainly comprises national monuments – a total of eighteen.
There is no risk here of disruptive high-rise buildings in the vicinity of the OUV and attributes.

4.2.2 ENVIRONMENTAL PRESSURES

Soil movement

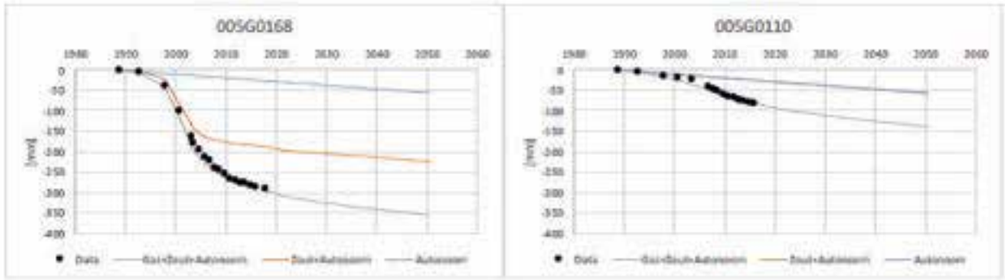
The soil in the Netherlands, the north of the Netherlands included, is subject to all kinds of processes and factors taking place on or in the soil. As a result, the soil is slowly descending. On the one hand, this is the result of natural processes, such as the subsidence of the shallow subsoil. On the other hand, there are anthropogenic causes, such as surface load/settlement or decline of the groundwater level. Together, natural processes and human interventions cause this autonomous subsidence of the surface level. In the north-west of Friesland, the autonomous subsidence varies on average from less than 1 millimetre to several millimetres per year. This subsidence is spread fairly evenly over a large area and the consequences of this have so far been barely noticeable.

Soil subsidence map

The soil subsidence map literally shows the dynamic of the Netherlands. The soil subsidence map 2.0 is an interactive map which can be zoomed in on to object level, and which shows the movement of measuring points in time. It can be consulted via the website https://bodemdalingskaart.nl/nl/.

Soil subsidence due to mineral extraction

In addition to the autonomous soil subsidence, soil subsidence also occurs as a result of mineral extraction from the deep subsoil, such as natural gas and rock salt. There are two gas fields near the city of Franeker, namely Harlingen-Bovenkrijt and Ried-Zandsteen. During the period 1988-2008, gas was extracted from Harlingen-Bovenkrijt. As a result of this, the soil has subsided by a total of around 29 centimetres at the site of the extraction near Herbaijum. In the next thirty years, there will be a further subsidence of approximately 6 centimetres in total, due to the lag effect (according to the modelling employed), so that the total subsidence at the deepest point at the extraction site will be about 35 centimetres. The outermost edge of the relevant subsidence basin reaches as far as the inner city of Franeker, and a not substantial subsidence of approximately 1 to 2 centimetres will occur at the location of the inner city in the period up to 2050.

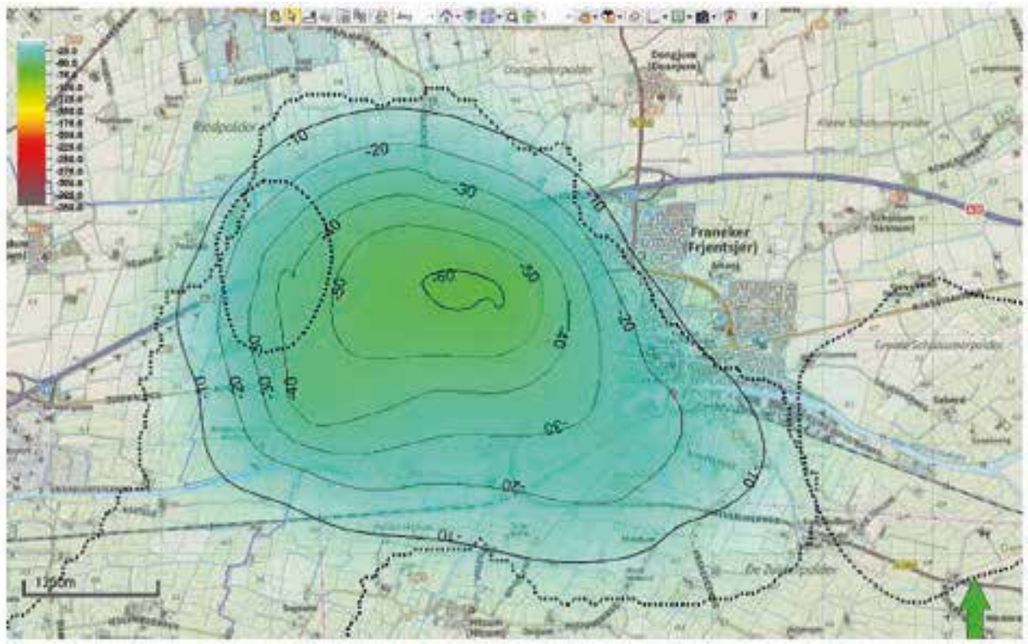


44. Soil subsidence prospects. Left in Herbaijum, right near Franeker. The future soil subsidence is estimated to be negligible at these locations.

The gas extraction from the small gas field at Ried-Zandsteen to the east of the city of Franeker has reached the final phase of production. The soil subsidence occurring in this connection is very limited (approximately 1 millimetre per year) and does not affect the city of Franeker.

Under the influence of evaporation of the sea about 200/300 million years ago, a thick halite salt layer is located in the deep subsoil at a depth of about 2.5 - 3 kilometres in north-west Fryslân. Since 1996, this unique salt has been extracted in a number of places by means of solution mining from the deep subsoil, north of the city of Franeker near Sexbierum and south of Tzummarum. As a result, the soil has subsided at the location of the extraction sites. The edge of the subsidence basin of the salt extraction that has arisen extends to the edge of the subsidence basin of the gas extraction, which partly also overlap near the city of Franeker. The salt extraction in the area will end in 2021, so that the soil will not descend any further due to salt extraction. Only the aforementioned subsidence of 1 to 2 centimetres due to gas extraction is to be expected for the inner city until 2050.

Soil subsidence and Planetarium
Since the soil subsidence has been occurring evenly over a larger area for a longer period of time, and the mineral extraction in the area has ended or is in its final phase, it is in the current circumstances not to be expected that the anticipated soil subsidence could have an effect on the existing buildings in the inner city of Franeker.
Because the Planetarium has to date not experienced any harmful effects from the soil subsidence, it is not likely that future soil subsidence will have any effect.
There is no danger for the OUV and attributes.



45. Soil subsidence Franeker and surroundings. Gas decrease 2018-2050, in mm. At the deepest point, about 6 cm of gas drop is expected. Contour interval 10 mm. Source: Vermilion Energy, 2019.

4.2.3 NATURAL DISASTERS AND RISK PREPAREDNESS

Natural disasters
The Netherlands is well prepared for natural disasters. Natural disasters remain a risk for everyone. In the Netherlands, the chance of severe autumn storms (wind force 11 or more) is currently not very great yet (once every fifteen years), but could increase sharply due to global warming (once every two to three years). However, because these storms come from the (south-)west, they are not expected to be accompanied by storm tides. On the other hand, the chance of severe winter storms is expected to decrease. (https://www.knmi.nl/kennis-en-datacentrum/achtergrond/zware-herfststormen-in-europa-door-orkanen-in-een-warmer-klimaat)
The chance of earthquakes and wildfires in the Netherlands is real, but not in the north of the province of Fryslân or the city of Franeker. There is no risk of damage to the Planetarium caused by winter storms, earthquakes and wildfires. Tsunamis are not expected here either, although there is a risk of flooding. However, very detailed provisions and plans exist to prevent possible threats of flooding.
There is no danger for the OUV and attributes.

Flooding in the Netherlands
One of the types of natural disaster is flooding. The risk of flooding and excess water will increase due to a number of causes, such as rising sea levels, soil subsidence and urbanisation. In the Netherlands, flood defences such as dykes, dunes and dams provide protection against these floods.

All kinds of measures are taken In the Netherlands in order to prevent flooding. These measures are laid down by law. For example, there is a Delta Act that makes it mandatory to draw up a Delta programme that ensures that the Netherlands is well protected against flooding, is well adapted to extreme climate effects and has an adequate freshwater supply. Another example is the Water Act, in combination with provincial ordinances that describe the kind of safety the flood defences must provide.

For the province of Fryslân, Wetterskip Fryslân – for example – is an important player when it comes to the construction and maintenance of dykes and the monitoring of rising water levels. Wetterskip Fryslân regularly checks whether flood defences meet the set standards. If they do not comply, it will implement the necessary measures. Consequently, the Planetarium is safe and well protected against flooding.
There is no danger for the OUV and attributes.

Flooding and Franeker
The city of Franeker is located at a distance of approximately seven kilometres from the coast of Fryslân. The risk map, as described in the Friesland Climate Atlas (www.frieseklimaatatlas.nl), is based on three different levels of flooding; high probability (1/10 per year), medium probability (1/100 per year) and low probability (1/1000 per year).

This yields the following result:

- High probability of flooding (1/10 per year) In the province of Fryslân, a high probability of flooding applies mainly to an area close to the coast, at a considerable distance from Franeker.

- Medium probability of flooding (1/100 per year) The medium probability of flooding applies to a much larger area in the province of Fryslân, but the centre of the city of Franeker does not run this risk.

- Low probability of flooding The probability of floods from which the city of Franeker – and thus the Planetarium at ground level – will experience problems from excess of water is estimated at 0.1% (1/1000) per year.

In addition to the aforementioned care of Wetterskip Fryslân for the provincial water management, the risk of flooding in Franeker is minimal. In the unlikely event of water problems, measures will be taken in good time to prevent the water from entering the Planetarium by closing the entrances, possibly combined with supporting the facades. Wetterskip Fryslân regularly checks whether flood defences (sea walls and drainage ditches) meet the standards which have been set. If they do not comply, the necessary measures are implemented, such as the current plan for reinforcement of the sea wall on the Koehool-Lauwersmeer route. Along this route, some parts of the sea wall were found to be unsatisfactory; this concerns, for example, the grass surface, the height of the sea wall or its stone revetment. At the moment a plan is being drawn up to strengthen the sea wall. From 2023 to 2027 implementation of this wall reinforcement will take place, after which the Wadden Sea flood defence will be up to par for the next fifty years. In this context it should be noted that it is improbable that any level of flooding will get as far as the planetarium instrument (ceiling) and the mechanism (mezzanine). Consequently, the Planetarium is considered to be safe and well protected against water problems.
The OUV and attributes are not at risk.

Deployment of emergency services
The Eisinga Planetarium is located right in the middle of the inner city of Franeker, but is nevertheless easily accessible for emergency services. A major threat to the preservation of the Planetarium is a fire. The fire brigade has a well-equipped station in Franeker and defines a fire in the Planetarium as a medium fire scenario. This means that in the event of a fire alarm, it will immediately drive towards the fire location with two fire engines. It employs a standard time of eight minutes for this. The fire brigade exercises various scenarios every week, which enables them to act competently and professionally in real-life situations.

During events in the inner city, Eise Eisingastraat is kept free of obstacles, with the exception of the annual 'Agricultural Days' market (September) and the street market on the King's birthday (27 April). The organisers of these markets are required to set up stalls and place rugs in such a way that there is sufficient driving space for emergency transports, such as fire engines. This is included as a condition for the granting of permits, and there is a check on compliance.

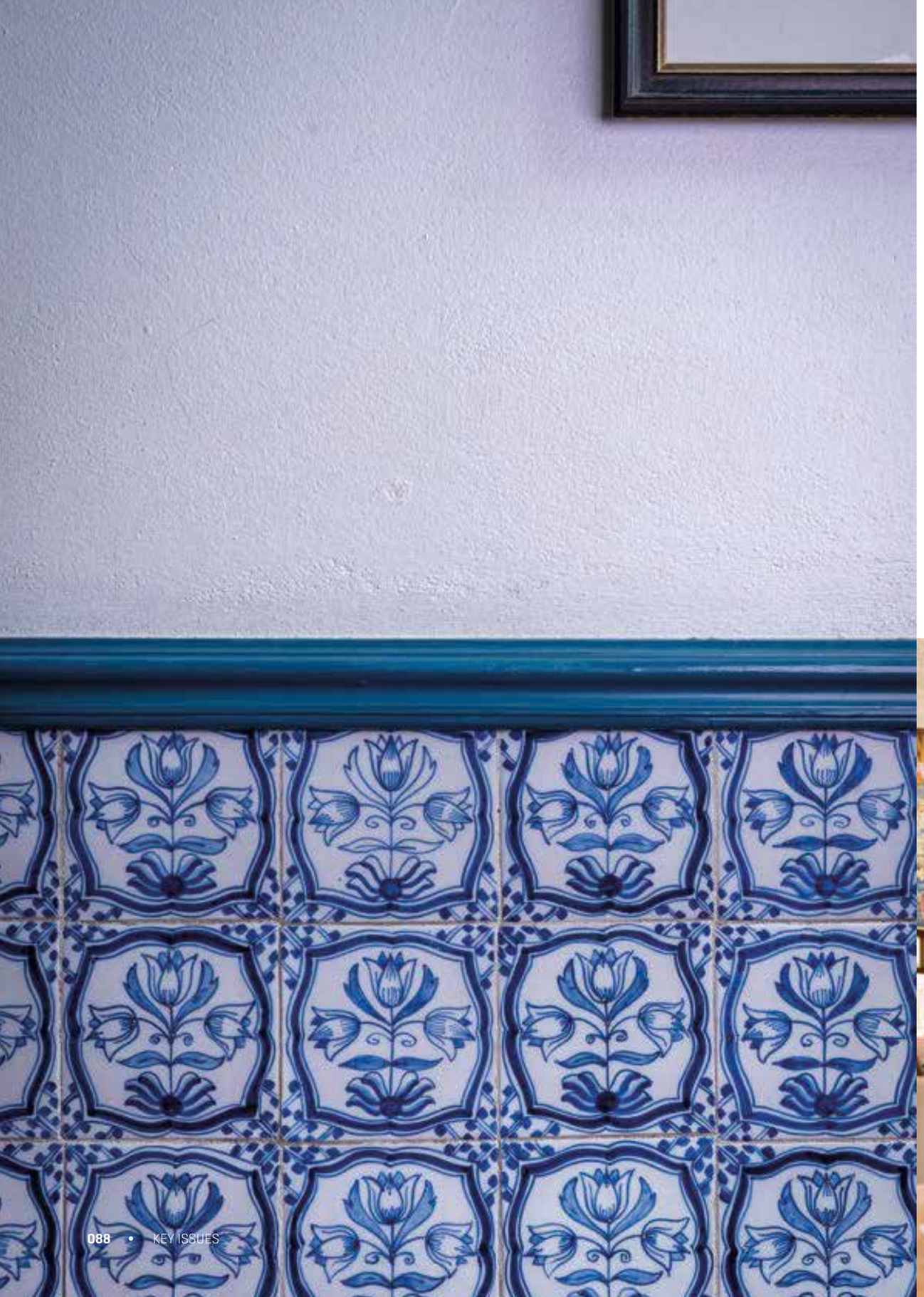
Keeping emergency routes clear is a first priority for the municipality, the police, the fire brigade and the event organisations, to see to it that the Planetarium is easily accessible for emergency services at all times, also during events. In order to properly secure the safety theme and to ensure that all those involved clearly keep it in mind, the municipality has been setting its stakes high for many years when it comes to integrated collaboration. All large-scale events are integrally prepared and evaluated, so that the scenarios can be optimised every year.

Fire brigade and Planetarium
The Planetarium has a so-called reporting system, by means of which a starting fire is reported within a minute. This speeds up the time between the detection of the fire and the arrival of the fire brigade on site, which increases the chance of extinguishing a fire in time.

In the building, a so-called gas extinguishing system has been installed in the building near the mechanism. This installation ensures that in the event of a fire, a gas mixture is blown into the room, which mixes with the air present, extinguishing the fire without water. The fire brigade possesses a so-called accessibility map of the Planetarium. On this map, all kinds of details of the building are marked with icons. This makes it easy to trace, for example, where the entrance to the building is situated and how the building is laid out. This map has been processed in a digital information system and is available to every fire-fighting corps. Thanks to clear procedures in the event of calamities, and to the extensive measures to prevent and fight fires, the lowest possible fire risk applies to the Planetarium.
There is no danger for the OUV and attributes.

4.2.4 NUMBER OF INHABITANTS WITHIN THE PROPERTY AND THE BUFFER ZONE

The estimated population (2020) located within the area of the property: none
The estimated population (2020) located within the buffer zone: 78
The total population located within the property and the buffer zone: 78



4.3 OPPORTUNITIES

The Royal Eise Eisinga Planetarium has a long history, in which visitors have been received and have been given explanations in the planetarium room since 1781. Since that first day in 1781, someone has always been responsible for conservation, preservation and management.
Opportunities have been seized by Eisinga's successors to increasingly bring the founder's legacy to the attention of a growing audience through, for example:

- Publication of descriptions in various languages, dating from as early as the mid 19th century;

- Books:
  1780 - Swinden, J.H. van, *Beschryving van een konst-stuk, verbeeldende een volleedig bewegelyk hemelsgestel, uitgedagt en vervaardigd door Eise Eisinga* (Description of a work of art, depicting a fully mobile celestial frame, devised and constructed by Eise Eisinga), D. Van der Sluis and D. Romar, Franeker. 1824 and 1831 – reissues book prof. Van Swinden
  1928 - Havinga, E., W.E. van Wijk, J.F.M.G. d'Aumerie, *Planetariumboek Eise Eisinga* (Planetarium book Eise Eisinga), Arnhem, on the 100th anniversary of the death of Eise Eisinga.
  1981 - Terpstra, H., *Friesche sterrekonst. Geschiedenis van de Friese sterrenkunde en aanverwante wetenschappen door de eeuwen heen* (Frisian astronomy. History of the Frisian astronomy and related sciences through the ages), T. Wever, Franeker.

46. Brasserie De Stadstuin in former coffee roasting facility.

2006 - Warmenhoven, A., Echternach, E., *Tijdloos zonnestelsel, 225 jaar Eise Eisinga Planetarium* (Timeless solar system, 225 years Eise Eisinga Planetarium), Telenga Drukkerij, Franeker 2006.
2021 - Arjen Dijkstra, *De Hemelbouwer, Een biografie van Eise Eisinga* (The Sky Builder, A Biography of Eise Eisinga), Noordboek, Gorredijk.

- Support buildings
  1992 - former wool combing facility
  2008 - adjacent former coffee roasting facility S.C. Van Balen, Eise Eisingastraat 2 **<46>**
  2016 - former confectionery Van der Veen, Eise Eisingastraat 1 **<47>**

Accessibility

The Planetarium is committed to being also accessible to the disabled. Virtually all the rooms are accessible by wheelchair. High thresholds are equipped with threshold ramps and there is a lift to the first floor. Only the mechanism has limited access due to a steep flight of stairs. However, the gear can be viewed from the ground floor via a monitor with images. The Planetarium also has an adapted toilet. Employees are trained to give explanations to people with an intellectual disability. Visitors with auditory and visual impairment are also taken into account when giving explanations in the planetarium room, by clearly articulating and visual storytelling.

Energy consumption

Almost all light sources in the Planetarium have been converted to LED lighting. The heating is equipped with thermostat knobs.

48. Theatre De Koornbeurs, exterior.

47. Visitor Centre in former confectionery.

Plans

Developments will continue, also in the – near - future.

Concrete plans:

- In order to be able to properly receive the expected increasing number of visitors (partly as a result of the World Heritage status), a collaboration with the adjacent theatre De Koornbeurs will be entered into **<48>.**
  Visitors will be welcomed in theatre De Koornbeurs with all the desired facilities, such as cloakroom, lockers, toilets and catering **<49>.**
  An introductory film about Eise Eisinga and his Planetarium will be shown in the theatre **<50>.**
  Subsequently, visitors can view the Planetarium, where they can see the exhibitions on their own and will be given a live explanation in the planetarium room. Due to the introductory film in theatre De Koornbeurs, this explanation can be limited in time, which will allow the visiting capacity to increase;

49. Theatre De Koornbeurs, foyer.

50. Theatre De Koornbeurs, large hall.

- Collaboration with the UNESCO World Heritage Sites in Friesland: Wadden Sea World Heritage **<51, 52>** and the Ir. D.F. Wouda Steam Pumping Station in Lemmer **<53, 54>.** These sites combine the Frisian icons 'land, water and pristine starlit sky', which should offer visitors to the Frisian World Heritage Sites an interesting perspective to further enhance the experience;

51. Village of Westhoek [NL], Wadden Sea.

52. Village of Westhoek [NL], Wadden Sea.

53. Lemmer [NL], Wouda Steam Pumping Station, exterior.

54. Lemmer [NL], Wouda Steam Pumping Station, interior.

- Collaboration with the other World Heritage Sites in the Netherlands, for example through Cross Marketing and via Werelderfgoed.nl. The Netherlands World Heritage Foundation, established in 2000 as a consultation platform, and a foundation since 2010, takes responsibility for increasing social awareness of World Heritage. For that reason, collaboration is opportune. The Netherlands World Heritage Foundation promotes the interests of World Heritage by acquiring, developing and sharing knowledge, and by taking collective action towards outside parties. In this way, the individual World Heritage Sites can optimally fulfil their tasks. All the Dutch site holders are affiliated with the Netherlands World Heritage Foundation;

55. Netherlands World Heritage Foundation, logo.

- Deepening and broadening the educational offer, also making use of the position of the Royal Eise Eisinga Planetarium in the Canon of the Netherlands **<56>.** The Canon of the Netherlands is a list of fifty themes that provides a chronological summary of the history of the Netherlands. One of these themes focuses on the work of Eise Eisinga with 'The solar system in a living room'. The Canon of the Netherlands is primarily intended for education and has developed since 2006 as a representative educational tool widely used in education. In 2019-2020 the Canon has been revised.

56. Planetarium, Canon of the Netherlands.

5. *Policies and Actions*

INTRODUCTION

Social support

Recognition and social support are essential for a sustainable and sunny future of the Eisinga Planetarium. To this end, raising awareness is one of the central activities of the Planetarium. Both the Planetarium's projects aimed at education and the programme aimed at the involvement of adults from the region serve this purpose. This is in line with an (inter) national movement to increase public involvement and participation in heritage. (Faro Convention).

The name of Eise Eisinga and the Planetarium are inextricably linked to Franeker. Those who live, work or are educated in Franeker will come across Eise Eisinga and his Planetarium. Eise Eisinga, his ideas and the Planetarium live on in various ways. The city has two works of art that refer to Eisinga. Those who want to have a rest in the inner city can take a seat on so-called star seats, and to visit the Planetarium one will of course have to pass through Eise Eisingastraat. Another work of art is to be found on the bridge in front of the Planetarium.

The city of Franeker is the 'Star of the Eleven Cities'. With its historic inner city, Franeker serves as a shopping centre for a large catchment area. Entrepreneurial associations have united in an umbrella foundation, called 'Star of the Eleven Cities'. 'Star' refers to the Planetarium and stands for quality. This club of entrepreneurs promotes the Franeker inner city and organises activities there, seasonal markets and more, all year round. Social support is strong: people from Franeker are proud of their Planetarium. The influx of more than 60,000 visitors per year is also important for local businesses. There are no reports or indications that local residents are inconvenienced by the large numbers of visitors to the Planetarium.

The Planetarium was nominated to be proclaimed 'Het moaiste fan Fryslân' (The finest of Fryslân). On 16 November 2017, during the final, the gratifying message was received that the Planetarium had won the election, which confirms the wide support among the Frisian population **<58>.**

STER VAN DE ELF STEDEN

FRANEKER

57. Franeker Star of the Eleven Cities, logo.

58. Planetarium, The finest of Friesland.

Administrative support

The municipality of Waadhoeke supports the Planetarium's ambition to obtain UNESCO World Heritage status. In the Coalition Agreement 2018-2022, it is explicitly stated that the municipality supports the Planetarium in its aim to obtain World Heritage status and will invest in this. This aim is reflected in the strategic long-term policy of the municipality, under the heading 'Development perspective Waadhoeke 2018-2028' and is integrated in both the municipal cultural policy and the policy for recreation & tourism.

On 22 January 2015, the municipal council unanimously decided to make € 200,000 available for the expansion of the Planetarium, which was completed in the spring of 2016.

The administrative support was confirmed on 18 June 2020 with the signing of the UNESCO World Heritage Nomination Charter, by representatives of the Province of Fryslân, the Municipality of Waadhoeke and the Royal Eise Eisinga Planetarium Foundation.

In the Guarantee of the municipality of Waadhoeke dated July 2021, it is stipulated that the municipality will do everything in its power to protect this outstanding potential World Heritage Site (Appendix 4). For the municipality, the Planetarium is a flagship product, which attracts large numbers of visitors to Franeker and ensures global media attention.

The province of Fryslân also supports the candidacy, which is apparent, for example, from its inclusion in the provincial subsidy structure and the fact that the King's Commissioner is chairman of the Reference Group.

5.1 GUIDING PRINCIPLES

The Management Plan for the Royal Eise Eisinga Planetarium is based on five guiding principles for protection, management and transfer of knowledge:

- Principle 1 – Protection & conservation
- Principle 2 – Management vision
- Principle 3 – Community benefit
- Principle 4 – Presentation & transmission to future generations
- Principle 5 – Management

5.2 POLICIES

Principle 1 – Protection & conservation

Main objective 1 – Protection, preservation and sustainable maintenance of the Outstanding Universal Value, Integrity and Authenticity of the Planetarium, including any measures in favour thereof.
Unconditional continuation of the historical function of the Planetarium, by (seeing to the) implementation of all the relevant policy and preservation measures, so that the authenticity of location, material and function remains preserved.

Policy 1a – National monument
Sustainable national protection of the canal house with the Planetarium as a national monument under the Heritage Act.

Policy 1b – Protected cityscape
Sustainable national protection of the historic city centre of Franeker as protected cityscape under the Heritage Act. The Planetarium is situated within the boundaries of the protected cityscape.

Policy 1c – Property of World Heritage
Applying and carrying out all that is necessary in the context of the World Heritage status of the property.

Principle 2 – Management vision

Main objective 2 – Prevention or limitation of developments and changes that could negatively affect the World Heritage Site.

Policy 2a – Security regions
In 2020, the Security Regions Act (Wvr) came into effect. The Act arose from a need to organise disaster relief and crisis management on a more extensive scale than the municipal scale. In addition, it was felt that the effectiveness and the professionalism of the emergency services had to be increased. The Act therefore aims at an efficient and high-quality organisation of firefighting, medical assistance and crisis management under one regional administrative direction.

Policy 2b – Security region Fryslân
In the province of Fryslân, all Frisian municipalities are represented within the Security region Fryslân (VRF). The VRF has laid down the preparation in a so-called Regional Crisis Plan and various sub-plans. As a result, emergency services such as the police, the fire brigade, medical assistance, but also the municipalities, know how to deal with incidents.

Policy 2c – Monument Watch
Monument Watch is an institution that offers its affiliated members (owners or managers of a monument or valuable heritage), an inspection system in which the conservation status of the heritage is regularly examined. Every two years, the building in which the Planetarium is housed is technically checked by the Monument Watch Foundation Fryslân, and an inspection report on the results is drawn up.

Policy 2d – Property of World Heritage
Annual review of developments regarding anticipated and current risks, and their impact on the Management Strategies.

Principle 3 – Community benefit

Main objective 3 – Making a social contribution to the local society and economy through sustainable conservation and use.

Development Perspective Waadhoeke 2018-2028
The municipality of Waadhoeke was created in 2018. A new municipality requires a new perspective on identity and where the opportunities lie for further development. This perspective provides an important first step in this respect. In the perspective, four development lines have been identified that support the future strategic policy of the municipality. The implementation of the development perspective will run from 2018 to 2028.

The four development lines are:

A. Waadhoeke –
In position and powerful in the region (economic perspective).
Further activating important tasks in the economy. Recognising and facilitating these tasks at an early stage, in order to strengthen the position and take advantage of the favourable location.

B. Experience –
Enjoyment between mudflat and city (tourism and recreation)
Strengthening of tourism in Waadhoeke, because this increases the experience of the municipality and the quality of life for everyone.

C. Good life –
Vital and buoyant villages and neighbourhoods! (social and quality of life)
Stimulating beautiful and affordable housing, in a robust landscape with sufficient facilities and good accessibility. Being able to (continue to) lead a life that is good for young and old.

D. Our landscape –
Sustainable harvest for the future (landscape, nature, biodiversity, sustainable agriculture).
Aiming at the encouragement of the right balance between the core qualities of the landscape and the opportunities for a sustainable agricultural sector.

The development line Experience - *Enjoyment between mudflat and city* also relates to the Royal Eise Eisinga Planetarium. The efforts in respect of this development line have been elaborated in:

- Memorandum recreation and tourism municipality of Waadhoeke
  (vision and implementation programme municipal recreation & tourism, which is described later in this Management Plan)

- Culture memorandum municipality of Waadhoeke and Cultural Implementation Programme 'Yn Ferbining' (Frisian for 'Connecting')
  (strategy and concretisation of the municipal cultural policy which is described later in this Management Plan)

The unique, distinctive development tasks set out in the development perspective include:
- Planetarium World Heritage
- Project Op paad Lâns it Waad (cycling along the Wadden Seawall)
- Franeker Academy
- Sense of Place (landscape art along the Wadden Sea)
- Arcadia 2022 and the Landscape Triennial 2023

Policy 3a – Inner city management
The economic policies of the municipality aimed at Franeker are based on the current coalition agreement and the 'Development perspective Waadhoeke 2018 - 2028 (long-term)'.

Central to this is:
- Working towards vital shopping centres;
- Keeping the shopping area of Franeker attractive.

The municipality is committed to:
- Implementing active polities to limit vacancy;
- Providing flexibility in zoning plans, so that exchange of functions is possible as quickly as possible;
- Implementing the spearheads of city centre management in Franeker. These spearheads are:
  - Franeker Seduces
  - Franeker Pampers
  - Franeker Real Estate

Inner city management
From 2016, the promotion of the city of Franeker has been carried out by a group of involved people from Franeker (residents and entrepreneurs), under the name of 'inner city management Franeker'. The inner city management collaborates closely with and is supported by the municipality of Waadhoeke. The inner city management programme consists of activities and measures that should ensure a (more) pleasant stay in the city for the visitor. The activities of the inner city management include the implementation of the promotion of Franeker based on the theme *Franeker historic academy city.*

Franeker Seduces
This term represents the promotion and development of activities that stimulate people to visit the city. Franeker presents itself as an 'old academy city' and this has been translated into an action plan for promotion, which is being implemented by the Citymarketing working group since the beginning of 2018. The promotion has been made possible by the extra financial efforts of the municipality and the entrepreneurs. Franeker now has a good basis to distinguish itself and to show itself to the public.

Franeker Pampers (see also Policy 5e)
Franeker wants to contribute to the hospitable reception of its visitors. Therefore, maximum attention is paid to what the visitor experiences during arrival, stay and departure. Meanwhile, 'Franeker Pampers' has led to the upgrading of the central square (Breedeplaats) right in the middle of the city, and of its immediate vicinity. This has improved the link between the two most important shopping areas in the city. Through the use of more greenery, Breedeplaats has become an even more attractive place to spend time, with the 'Oortwolkfontein' (Oort cloud fountain) as an eye-catcher. This fountain is a tribute to the world famous Franeker-born astronomer Jan Hendrik Oort. It was designed by the French artist Jean-Michel Othoniel. The immediate vicinity of the fountain was designed by the internationally renowned Dutch landscape architect Piet Ouddolf.
For other issues, the Franeker Pampers working group has been set up.

The working group is concerned with:
- Signage and welcoming;
- Public and ambient lighting;
- Street litter.

Franeker Real Estate
The Franeker Real Estate working group has been active since the beginning of 2017. The working group is in search of opportunities for adaptive re-use of empty buildings and to prevent vacancy. The members use their network for this and in doing so complement the efforts of the brokers.

Policy 3b – Marketing & Promotion World Heritage Site
The Netherlands Board of Tourism and Conventions (NBTC) is responsible for International Marketing & Promotion. The website of the NBTC (www.nbtc.nl) does not indicate any special attention being paid to the World Heritage Sites in the Netherlands. In the context of 'Holland Marketing', an interesting programme entitled 'Holland City' is being developed, which should inspire tourists to go off the beaten track. A tool for this is the 'Holland City Metro Map', which connects places in the Netherlands via so-called storylines. Eight storylines can currently be recognised, namely: Flower Line, Golden Age Line, Hanseatic Cities Line, Liberation Route, Mondriaan-Dutch Design Line, Shopping Line, Van Gogh Line and Waterland Line. World Heritage Site locations are included in these Storylines (Lemmer, Schokland, Amsterdam, Utrecht, Kinderdijk, Rotterdam) but, given the importance of World Heritage in the Netherlands, it would seem logical to develop the storyline 'World Heritage'. It is also conceivable to pay attention to the universe from a Dutch perspective, for example Space Expo in Noordwijk. How is the connection made with the universe from Dutch ground level, and which thought-provoking points of interest does this provide for visitors?

Policy 3c – Municipal cultural policy
In 2020, the municipality of Waadhoeke has established its cultural policy and recorded this in the memorandum 'Kultuer yn Waadhoeke, mei-inoar meitsje we it mei' (Frisian for: Culture in Waadhoeke, together we experience it). The implementation of the policy was subsequently described in a programme entitled 'Yn ferbining'.

Summary municipal cultural policy
Waadhoeke presents itself as a young municipality with a surprising and diverse range of art and culture. Waadhoeke is committed to the preservation and strengthening of this offer, and intends to promote participation in culture. It does this based on the following (future) vision:

Waadhoeke is een culturally attractive municipality and has a surprising and diverse range of art and culture. We are inspired by the Wadden mudflats, the landscape, heritage, community, language and social developments. In Waadhoeke, the municipality and the cultural field are partners in achieving the best that art and culture have to offer. As a social binding agent, as a participatory instrument, as food for conversation, inspiration and (tourist) attraction.
In cultural Waadhoeke there is room for experiment and tradition, for the existing and for innovation, for preservation and for development. In Waadhoeke there is a lively cultural field, with plenty of toom for every target group to participate actively or passively.

Ûntdekke, meimeitsje and doarre & dwaan (Frisian for: Discovering, participating and daring & doing)
To ensure that the cultural policy is given shape and substance, the vision has been translated into three themes. The themes ûntdekke, meimeitsje and doarre & dwaan form the framework for the policy. Each theme has an objective that has been elaborated into a number of intended results.

The theme *ûntdekke* is about how the rich cultural offer can be brought to the attention of residents and can bring visitors. But also about the introduction to culture and more cooperation within the cultural field.

With the *meimeitsje* theme, a connection is made between art & culture and quality of life. It focuses on cultural education, cultural participation and the use of culture as an instrument for being able to (continue to) participate in society.

The theme *doarre & dwaan* is about the way in which the municipality wants to deploy the experiences and energy of Leeuwarden-Fryslân 2018 (European Capital of Culture) to further strengthen its cultural offering and cultural participation and keep it vital, and what this means for cooperation between the cultural field and the municipality.

In connection with Leeuwarden Friesland 2018 European Capital of Culture, an Eleven Cities fountain was realised in all the eleven Frisian cities, with a theme relevant to the Frisian city in question. Franeker received the 'Oortwolkfontein' (Oort cloud fountain), named after prof. Jan Hendrik Oort [1900-1992], born in Franeker and a world-famous astronomer, who in 1950 advanced the theory that comets have a common origin in the outer regions of the solar system. That origin is now called the 'Oort cloud'. By placing the Oortwolkfontein, a contribution is made to the further historical positioning of Franeker, in which astronomy is part of the urban identity.

Policy 3d – Public events
Thanks in part to the new public hall, with a capacity of up to 40 adults, the Eisinga Planetarium has an excellent facility to host public events, with the indoor catering facility De Stadstuin providing further added value. When many children are among those present, the maximum capacity of the public hall is 45-50 people. The themes of the public events are diverse and do not have to correspond with the substantive objectives of the Planetarium. The main thing is to generate attention for the location, to rent out the location as intensively as possible, and to show that the Planetarium is at the heart of society, which is another asset in relation to the support for the World Heritage status.

Policy 3e – Workshops
Related to the historical craftsmanship that can be observed in the Royal Eise Eisinga Planetarium, it is conceivable to organise workshops for (small) groups of participants, who during a certain period will work on, for example, the construction of their own planetarium or the processing of wool into an artistic product, all this under the guidance of external, expert teachers. Workshops which focus on specific research assignments could also be envisaged.
Such workshops contribute to the positive image of social diversity.

Policy 3f – Cultural Historic City Trail
Franeker can rightly be called a Cultural Historic City, with the Royal Eise Eisinga Planetarium as a perfect departure point and with access to the protected cityscape. Franeker has 178 national monuments (such as the Planetarium, churches and ecclesiastical institutions, the academy, the defines works, town hall, the sack carriers house, the weigh house, residences, shops, warehouses, company buildings, bridges, the Frisian handball field, the cemetery). This context of the Planetarium offers further added value to the visitors and citizens of the city of Franeker. The Eisinga Planetarium can function as a basis for a surprising 'Cultural Trail' for hikers.

Policy 3g – Annual Royal Week
With the policy 'Royal Week', a network is formed consisting of all the organisations and companies in Friesland that have the designation 'Royal' or 'Supplier to the Court'. This results in a colourful group of locations, that jointly present themselves to the public during the Royal Week, with all kinds of visiting options and programmes. A Royal Week could, for example, be organised prior to the annual King's Day.

Some examples of Royal organisations and companies in Friesland are:
- Royal Eise Eisinga Planetarium, Franeker
- Royal Douwe Egberts, Joure
- Royal Association of the Frisian Eleven Cities, Leeuwarden
- Royal Friesian Horses Studbook, Drachten
- Royal Friesland Campina, Leeuwarden
- Royal Dutch Frisian Handball Association, Franeker
- Royal Tichelaar Makkum
- Royal Water Sports Association Sneek
- Royal Water Sports Association Frisia, Grou
- Royal Water Sports Association Langweer
- Supplier to the Court Fortuin, candy manufacturer, Dokkum
- Supplier to the Court Boonstra, confectionery, Drachten

Principle 4 – Presentation & transmission to future generations

Main objective 4 – To continue using the Planetarium for receiving visitors and applying an extensive programme for presentation and education.

Policy 4a – Sharing Values
Sharing the World Heritage values of the Royal Eise Eisinga Planetarium with all conceivable stakeholders in relation to the development and implementation of the Management Plan, and for the promotion of the fulfilment of the obligations under the World Heritage Convention.

Policy 4b – Scientific research
Extensive scientific research has taken place into the various facets of the 'planetarium' phenomenon. Chapter 5.3 of Policy 4b includes a selection of relevant publications in which the Eisinga Planetarium is discussed, directly or indirectly. The unpublished research reports commissioned by the Royal Eise Eisinga Planetarium Foundation are included as appendices. Dijkstra (2019) and Gessner (2020) also contain extensive literature references.

Policy 4c – Media
Various media regularly pay attention to the Royal Eise Eisinga Planetarium. This concerns articles, both on paper and on the internet, and television recordings, always providing a positive profile.
Some highlights are the 2008 Queen's Day, with a central role for Eise Eisinga, and the visit to the Planetarium by King Willem Alexander and Queen Maxima on 13 June 2016.
The award of the 'Royal' designation in 2006 is considered to be the national recognition of the exceptional status of the Planetarium. The aim is to generate more or less constant media coverage.

Policy 4d – Education
The Royal Eise Eisinga Planetarium offers an extensive range of education for both primary and secondary schools. Attention in this respect is not only paid to the location of the Planetarium, but also to the city of Franeker and Eisinga's native village Dronrijp. In addition, the international teaching box *'Universe in a Box'* of Universe Awareness is offered.
The Planetarium's educational activities are extensive and versatile, and constitute a valuable component in the transfer of knowledge related to the future World Heritage Site.

59. Presentation & transmission to future generations.

Policy 4e – Never too young: Arts and culture programme 'Waadzinnig'

In the municipality of Waadhoeke, primary education and the arts and culture field work closely together in the sphere of cultural education. Every year they offer a varied programme in which different arts and culture disciplines receive attention in a continuous learning line. All of Waadhoeke's primary schools, including special education, participate in this joint programme (approximately 3700 children). The Planetarium is a permanent item within this programme.

Policy 4f – Franeker Academy

On 5th October 2017, the municipality of Franekeradeel (now Waadhoeke), Campus Fryslân of the University of Groningen, and the Protestant Congregation Franeker (as owner of the Botnia Stins location) signed a letter of intent to reopen the Franeker Academy. In 2018, this led to the Foundation of the Academie Van Franeker. Since 2019, the foundation has had its own accommodation at Botnia Stins, in the centre of Franeker. The Foundation wants to give shape and content to Franeker's university past in a contemporary manner. The aim of the Academy is to stimulate and facilitate scientific research and education in Franeker and north-west Fryslân, in collaboration with Campus Fryslân of the University of Groningen. It does this through activities such as offering public lectures and setting up working groups on regional themes. These activities are combined in an educational centre, in collaboration with educational institutions, the business community and social institutions in the region. The scale and the needs of Fryslân, and in particular north-west Fryslân, are central to this. The municipality of Waadhoeke supports the Academy with an annual subsidy.

Policy 4g – National & International co-operation

The board and the management of the Royal Eise Eisinga Planetarium are affiliated with organisations in the field of astronomy and planetariums, in particular the following:

- Association of Dutch-language Planetariums in the Netherlands and Belgium (PLANed) – PLANed is the association in which a number of the Dutch-language planetariums in Belgium and the Netherlands work together. The relatively small Dutch-language area has only a limited number of planetariums. This co-operation arose from the desire to be able to offer a varied range of Dutch-language programmes.
- International Planetarium Society, Inc. (IPS) – More than six hundred planetariums from forty-six countries, including the Royal Eise Eisinga Planetarium, have united in the International Planetarium Society. The IPS is an international association of planetarium professionals involved in a wide range of planetariums: from historical planetariums to the most modern projection planetariums. Every two years a conference is organised with presentations and workshops, where knowledge, experiences and new ideas are exchanged.
- International Astronomical Union (IAU) – UNESCO, supported by the International Working Group on Astronomy and World Heritage and by the International Astronomical Union (IAU), has an online portal that facilitates international discussion and preparation of nomination files of astronomical heritage: https://www3.astronomicalheritage.net/.
- The Association of Science Centers (VSC) in the Netherlands.
- To further increase support, a partnership could be sought with the Royal Netherlands Astronomical Society, a professional association of astronomers with members in the Netherland and Flanders. This association aims to promote astronomy in the Netherlands and Belgium.

Principle 5 – Management

Main objective 5 (internal) – Effective governance, adequate resources and appropriate supervision will be ensured to support the effectuation of the Management Plan, with attention to the transfer of management knowledge as laid down by Eise Eisinga, founder of the Planetarium, including the necessary aspects of planning, implementation, evaluation and feedback.
Main objective 5 (external) – Effective policies and efficient policy implementation will be ensured with regard to measures for the benefit of recognisability, accessibility and traffic.

Policy 5a – Active and proactive governance

Since 2001, the Royal Eise Eisinga Planetarium has been managed and operated by the board and management of the Royal Eise Eisinga Planetarium Foundation. The board of the foundation consists of five members from scientific fields (University of Groningen and scientific journalism), the financial world (accountancy) and the local and/or regional community. Through its expertise, the board is equipped to actively and proactively, in a clear and direct manner, fulfil its responsibility for the comprehensive conservation, management and operation of the property.

Policy 5b – Optimally equipped management and staff

The board of the Royal Eise Eisinga Planetarium ensures the structural availability of effective management and staff in order to perpetuate high-quality conservation, sustainable management and dynamic operation at a functional level.

Policy 5c – Accessible city

Franeker is easily accessible. It is located on the A31 and is accessed on the south side by the newly constructed ring road. There is a fast and direct connection to Amsterdam via the Afsluitdijk A7. In addition, the city has a station on the Leeuwarden-Harlingen railway line and is situated on the Van Harinxma Canal. The road structure and the water structure are largely determined by the historical structure of the inner city. The map of the inner city is still largely the same as that of the medieval city. The canals and the old city walls (ramparts) clearly reflect this. In later years, this structure was elaborated upon, with the result that Franeker is easily accessible by road, water and rail. There is therefore no need to reserve extra space for the construction of additional roads, waterways and railways. The challenge for the coming years is to keep Franeker accessible. Attention to partnerships with public and private carriers is opportune. A mobility partner can be a transport company that maintains regular scheduled services to and from Franeker (train, bus). In addition, a mobility partnership is conceivable with bus companies and shipping companies that organise day trips and packages. Incidentally, the Arriva train set 10240 bears the name 'Eise Eisinga'.

Policy 5d – Traffic & parking

The inner city of Franeker is mainly a residential area. The shopping area has a radial structure: the shops are spread out radially from the centre. There is a concentration of shops in the eastern part of Voorstraat, Dijkstraat, Breedeplaats and Raadhuisplein. Service providers and catering establishments are also located in this area, but retail is the most common function here. Recently, two supermarkets have been moved from the western part of the centre to a new location on Leeuwarderweg, within walking distance of the centre. As a result of this supermarket relocation, the slow-traffic route via Leeuwarderend has become an attractive place for retail trade, and the attractiveness on the west side of the centre has decreased. Visitors (shopping and recreational public), residents and employees meet in the centre. The core shopping area has regional appeal. In addition, the centre has a major tourist function, partly due to its historical character.

With the acquisition of the designation 'UNESCO World Heritage Site', the number of visitors is expected to grow. Commissioned by the municipality of Waadhoeke, research was carried out in the second half of 2021 into the consequences if the number of visitors were to increase to 80,000, 100,000 or 125,000 visitors per year respectively.

The location of the various parking options, the parking capacity and the different access and walking routes to and from the Planetarium are adequate for the accommodation of a substantially growing number of visitors to the Planetarium without public nuisance. Given the average occupancy rate of parking spaces at parking meters, there are ample opportunities to absorb a larger influx of visitors. The free long-term car parks also offer sufficient space for large numbers of additional guests. To give an indication: every year there is a large-scale event in Franeker: the Agricultural Days (from Wednesday to Sunday), attracting some 35,000 visitors. There are sufficient parking facilities for the coaches. If necessary, this number of reserved parking spaces for coaches can easily be expanded. The parking requirement is monitored annually to ensure a timely response to developments whenever necessary.

Policy 5e – Tourist information provision

Municipal policy for tourism and recreation 'Experience Waadhoeke'

In 2020, the municipality of Waadhoeke has established its recreation and tourism policy, named 'Experience Waadhoeke'. The policy is summarised in the following ambition: 'We are proud of our landscape, our city and villages, our stories, our history and our languages. These provide us with our identity, which we cherish and maintain. We are happy to share our landscape and our stories with interested and involved visitors (our target group!). Our goal is not to attract as many tourists as possible, but to attract more tourists from our target group and to offer our visitors the best possible experience. This way we will get enthusiastic and loyal visitors. We do this by means of characteristic facilities that suit us, with quality coming first. To this end we need to work together. We are creative in linking facilities, for example by theme, as total products or as recreational cluster. Thus, we create destinations and travel goals for our visitors, over land and water. Our thinking is based on the point of view of the visitor or the holiday maker that we would like to attract: what do they like, what can we offer them and how do they find their information and their way around?'

'Waadhoeke is committed to valuable tourism. We aim for an increase of recreational tourism expenditure by 30% in 2024.'

This will offer residents and entrepreneurs optimal benefits from the positive effects of recreation and tourism now and in the future. It will allow us to continue to enjoy and invest in our landscape and our living environment.

In order to achieve this, three main tasks have been formulated. The first task is to improve the visibility and findability of the tourist offer in Waadhoeke, and to strengthen the cooperation between recreation entrepreneurs. The second task is to strengthen Franeker as a tourist destination, and the third task is to strengthen the landscape as a tourist attraction.

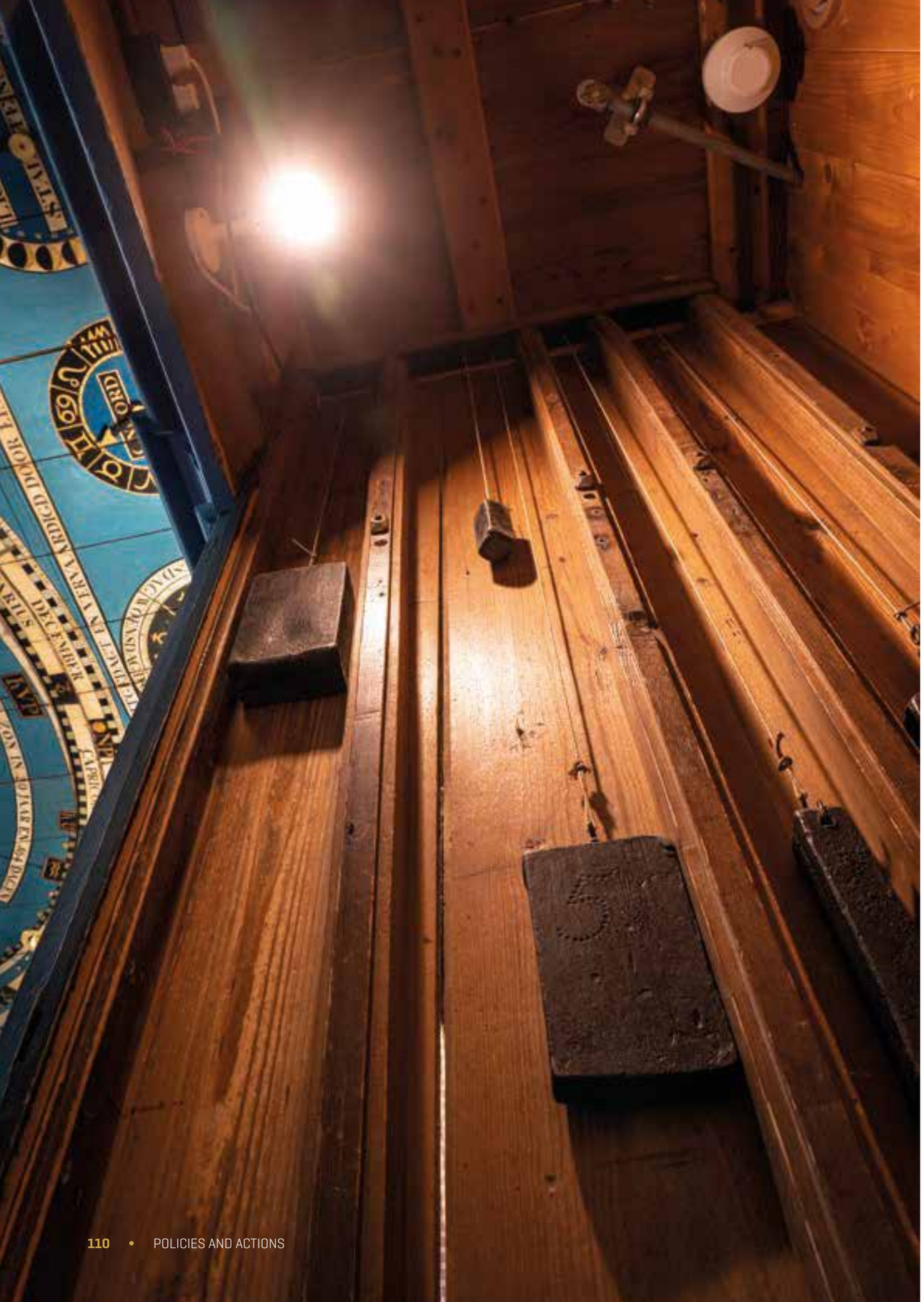
In the second task, the following action point with regard to the Planetarium is included:
'To strongly support the designation of the Eise Eisinga Planetarium as UNESCO World Heritage Site, and to link this to local product development, but also to regional product development and cooperation with other UNESCO locations in the area (Wadden Sea, Wouda Steam Pumping Station, Schokland, and Dutch Water Defence Lines (with Afsluitdijk and Wadden Center as stepping stones).'

Tourist information provision Franeker

From 2016, the promotion of the city of Franeker has been carried out by a group of involved people from Franeker (residents and entrepreneurs), under the name of 'inner city management Franeker'. This is done in close cooperation with the municipality. In 2020, based on the theme 'Franeker Pampers', the inner city management has produced the 'Implementation Plan Tourist Information Provision Franeker' was drawn up. The plan is intended to renew the tourist signage in the city of Franeker. Implementation is scheduled to take place mid-2021.

The theme 'Franeker Pampers' focuses on an optimal experience of the city, which means that parking facilities, information provision, furnishing of public space, street furniture, etc. should be in order. Consequently, the review and updating of the overall recreational information provision is part of 'Franeker Pampers'.
The above-mentioned organisation and approach are laid down in terms of policy in the document 'Investing in the inner city'.

Given the relationship between the former Franeker Academy and the Planetarium, the latter has a prominent place in the implementation of 'Franeker Pampers'. It is visible in various ways, making use of its reputation, but also used as a metaphor for Franeker historic academy city. As such, it appears as a logo in, for example, the welcome signs.



5.3 ACTIONS TO MEET POLICY OBJECTIVES

Principle 1 – Protection & conservation

Policy 1a – National Monument

Action 1a1 – Permit regime national monuments
For every proposed action concerning the national monument which requires a permit and is deemed relevant or necessary by the site holder and the manager of the Planetarium, the permit regime as regulated in the Heritage Act and the Environment and Planning Act is called upon.

Policy 1b – Protected cityscape

Action 1b1 – Permit regime protected cityscape
For every proposed spatial action within the protected cityscape Franeker which requires a permit, the Planetarium site holder will assess to what extent the execution of this spatial action would influence the OUV of the property, and to what extent this influence should be avoided. If desired, the site holder will then assert the result of the above-mentioned assessment in the context of the permit regime with regard to the protected cityscape Franeker.

Policy 1c – Property of World Heritage

Action 1c1 – Briefings and training World Heritage
Provide briefings and training for all staff members and stakeholders on the OUV, Integrity and Authenticity of the World Heritage Site and on this Management Plan and the Action Plan.

Action 1c2 – Heritage impact assessment
Implement protocol for undertaking heritage impact assessments (compliant with ICOMOS process).

Action 1c3 – Attributes of OUV
Establish process for annual review of the condition of the attributes of the OUV (part of the Monitoring Programme and Plan).

Principle 2 – Management vision

Policy 2a – Security regions

Action 2a1 – Security Regions Act
Currently, there are 25 security regions in the Netherlands. Under the Security Regions Act (Wvr) the board of the security region, consisting of all the mayors of the participating municipalities, has been given various tasks, such as:

- identifying the risks of fires, disasters and crises;
- advising the competent authority on the risks of fires, disasters and crises in the cases designated by or pursuant to the law, as well as in the cases determined in the policy plan;
- preparing for combatting fires and major accidents, and organising disaster relief and crisis management; and
- providing the control room function.

In addition, the board of the security region adopts a number of policy documents, including a policy plan, the risk profile, the crisis plan and a disaster relief plan. These documents are used to make strategic choices for the entire security region.

Policy 2b – Security region Fryslân

Action 2b1 – Security region Fryslân
In 2020, in addition to the general structure for the approach to disaster relief and crisis management, the security region Fryslân started a project 'High water and evacuation'. The aim of this project is to develop a structural approach to promote adequate crisis management in case of flooding. This approach includes drawing up an impact analysis and an evacuation strategy.

Policy 2c – Monument Watch

Action 2c1 – Monument Watch inspection structural condition
The management of the Royal Eise Eisinga Planetarium commissions the Monument Watch Fryslân Foundation to conduct a biannual inspection of the structural condition of the property.

Action 2c2 – Monument Watch inspection report
The Monument Watch Fryslân Foundation sets out the findings of the inspection of the structural condition and any related recommendations for repair or restoration in an inspection report.
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Action 2c3 – Implementation of recommendations Monument Watch
In close consultation with the municipality of Waadhoeke (owner of the planetarium), the Royal Eise Eisinga Planetarium Foundation will take a decision on the implementation of the recommendations set out in the inspection report of the Monument Watch Fryslân Foundation.

Policy 2d – Property of World Heritage

Action 2d1 – Protocol environment and property
Implement protocol for undertaking annual assessments on the environmental circumstances and prospect of environmental issues.

Action 2d2 – Process environment and property
Establish process for undertaking annual assessments on the environmental circumstances and prospect of environmental issues.

Principle 3 - Community benefit

Policy 3a – Economic policy municipality of Waadhoeke

Action 3a1 – Franeker Waddenpoort
Municipal investment in the programme Franeker Waddenpoort, a multimillion investment in new bridges and moorings for the target group of water tourists. Within this programme, specific attention will be paid to promotion & marketing.

Action 3a2 – Brand Fryslân
Municipal financial contribution to the joint promotion of Friesland (Brand Fryslân).

Action 3a3 – Destination Noardwest (north-west)
Municipal financial contribution to the promotion of the region (Destination Noardwest).

Action 3a4 – City Promotion and Citymarketing
Municipal financial contribution to the city promotion of Franeker: subsidy for the Star of the Eleven Cities Foundation, mainly used for activities and events. Budget Citymarketing to promote Franeker among a larger target group (outside provincial borders), based on the identity.

Action 3a5 – The Franeker Identity
Municipal initiative in collaboration with entrepreneurs for a branding trajectory for the city of Franeker: together with various stakeholders, 'the Franeker identity' will be formulated and established. This identity should put Franeker even more firmly on the map, and enable targeted promotion of the city.

Action 3a6 – Programming
Municipal initiative, in collaboration with entrepreneurs, for improved programming of the offer of activities and events in the city.

Action 3a7 – Activities and events
Municipal initiative, in collaboration with entrepreneurs, for increasing and improving the range of activities and events. Keywords in this respect are connecting (package deals), coordinating and informing.

Action 3a8 – Recreational boating
Municipal initiative, in collaboration with neighbouring municipalities, to co-operate with other towns and cities: the neighbouring cities of Harlingen and Leeuwarden want to become permanent ports of call for small-scale inland cruise ships. It is the intention of the municipality of Waadhoeke that these ships will also call at Franeker, with the Planetarium as a permanent part of the 'visiting package'.

Policy 3b – Marketing & Promotion World Heritage Site

Action 3b1 – World Heritage Line
Via the World Heritage Line which is to be developed, all the Dutch World Heritage Sites and nominated World Heritage Sites can be connected, with of course an important role for the Netherlands World Heritage Foundation and the individual site holders. The Royal Eise Eisinga Planetarium will also be included in the context of the World Heritage Line.

Action 3b2 – Universe Line
Via the Universe Line, a tourist connection can be made visible between related locations of interest for visitors, such as the Royal Eise Eisinga Planetarium Franeker, ARTIS Planetarium Amsterdam, Omniversum The Hague, Old Observatory Leiden and Space Expo Noordwijk, Dwingeloo Radio Telescope, Westerbork Synthesis Radio Telescope with solar system along the Milky Way path through surrounding woods, Sonnenborgh Museum and Observatory Utrecht, and Dark Sky Park Lauwersmeer. It could also be considered to add collections in the field of measuring instruments and time to the Universe Line. In addition, the Universe Line could take visitors to locations in the Dutch landscape with little artificial light pollution, from where successful astronomical observations can be enjoyed, such as on the Wadden Sea coast near Franeker.

Policy 3c – Leeuwarden Friesland 2018 European Capital of Culture

Action 3c1 – Implementation municipal culture memorandum 'Kultuer yn Waadhoeke, mei-inoar meitsje we it mei' (Frisian for: Culture in Waadhoeke, we experience it together).
The Planetarium plays a prominent role in the implementation programme of the municipal culture memorandum. Of the cultural institutions in Waadhoeke, the Planetarium attracts the most visitors. The experience and appeal of the Planetarium is used to make cultural Waadhoeke even more visible for both residents and tourists (ûntdekke). The theme meimeitsje includes the subject of cultural education. The municipality considers it important and valuable that every child in Waadhoeke is familiar with the Planetarium. That is why a visit to the Planetarium is a permanent part of the cultural education programme for primary schools.

The theme doarre & dwaan includes the establishment of a Culture Platform. This is a consultative body of cultural institutes and the municipality, in which parties inform each other about upcoming developments and examine in which areas and themes cooperation can take place. As the most frequently visited cultural institution in Waadhoeke, the Planetarium is involved in the Platform.

Policy 3d – Public events

Action 3d1 – Varied selection of public events
The use of the Royal Eise Eisinga Planetarium will be further intensified through renting and hospitality, with the side effect of further increasing prominence of the property. Examples of public events are: chamber music series, lectures, literature readings, Franeker Historic Evenings, topical subjects, information meetings and special meetings. For more extensive public events, the adjacent theatre De Koornbeurs is available as an alternative location.

Policy 3e – Workshops

Action 3e1 – Introductory memorandum workshops
On the basis of an introductory memorandum with perspective, further elaboration of the 'workshop' aspect will be initiated, in conjunction with one or more pilot projects. It is the intention to employ external, expert organisations in this connection.

Policy 3f – Cultural Historic City Trail

Action 3f1 – Preparation Cultural Historic City Trail
Preparation of the Cultural Historic City Trail, with the Royal Eise Eisinga Planetarium placed in a physically recognisable cultural heritage context within the protected cityscape of Franeker.

Policy 3g – Annual Royal Week

Action 3g1 – Network 'Royal Week'
In preparation, an introductory memorandum with perspective will be drawn up and shared with the potential network, in order to arrive at this annual public event aimed at a great diversity of visiting options, with a central role for the World Heritage Site Royal Eise Eisinga Planetarium.

Principle 4 – Presentation & transmission to future generations

Policy 4a – Sharing Values

Action 4a1 – Accessibility Planetarium
The Planetarium is accessible to everyone, regardless of knowledge level or age. The Planetarium is committed to accessibility for the disabled. Virtually all the rooms are accessible by wheelchair. High thresholds are equipped with threshold ramps and there is a lift to the first floor. Only the mechanism has limited access due to a steep flight of stairs. However, the gear can be viewed from the ground floor via a monitor with images. The Planetarium also has an adapted toilet. The Planetarium is open seven days a week from April to October, and six days a week from November to March. The annual European Heritage Days constitute a highlight. With further increasing numbers of visitors, extending opening hours is being considered.

Action 4a2 – Information desk Planetarium
During opening hours, the information desk of the Planetarium is available to answer questions, provide information and draw attention to matters via the website, brochures, telephone answering service and social media.

Action 4a3 – Planetarium room
The explanation in the planetarium room is provided in Dutch, German and English. An explanation in French and Frisian is also possible on request. If these languages are not appropriate for visitors, the explanation will be given by an accompanying guide from the group, who will see to the translation.

Action 4a4 – Planetarium exhibitions
The story of Eise Eisinga and his contemporaries is told in a permanent exhibition. In temporary exhibitions, attention is paid to current astronomical topics or subjects specifically related to the Planetarium. There is a continuous orientation on new issues, such as women in astronomy, and loan options in respect of objects to be exhibited.

Action 4a5 – Planetarium education
Educational material, produced under the auspices of the Royal Eise Eisinga Planetarium Foundation, is made available for all levels of education.
The planetarium organisation maintains active contact with the education sector, to ensure that supply and demand match current and expected education requirements. The Planetarium is associated with the Canon of the Netherlands, an important educational platform.

Action 4a6 – Lectures Planetarium
An annual lecture programme is organised in the auditorium of the Planetarium.

Action 4a7 – Special activities Planetarium
Active participation of the planetarium organisation in special activities, such as the National Stargazing Days, Night of the Night, National Heritage Day and Story Nights, draws attention to the Planetarium.
The object of constant attention is the search, together with other parties, for opportunities to deepen and broaden the range offered.

Policy 4b – Scientific research

Action 4b1 – Publications scientific research
The results of scientific research on or in relation to the Planetarium, commissioned by the Royal Eise Eisinga Planetarium Foundation, will be published, both in electronic and in printed form.

The status quo is as follows:

Commissioned by the Royal Eise Eisinga Planetarium Foundation:
- Dijkstra, A., *Het Planetarium en Eise Eisinga* (The Planetarium and Eise Eisinga), appendix 10 (July 2019).*
- Gessner, S., *Eisinga's planetarium: an outstanding astronomical mechanism of the 18th c.,* appendix 11 (January 2020).*
- Tuin, B.P., *Geschiedenis van het pand Eise Eisingastraat 3 te Franeker: eigenaren bewoners en gebruik* (History of the building Eise Eisingastraat 3 in Franeker: owners, residents and use), appendix 12 (May 2020).
- Waard, F.J. van der, *Franeker Eise Eisingastraat 3, bouwhistorische verkenning en waardestelling* (Franeker Eise Eisingastraat 3, architectural heritage research and valuation, appendix 13 (July 2020)

*) Parts of the results obtained by Dijkstra and Gessner have been discussed with different communities of scholars on three different occasions:
- Scientific Instrument Commission (SIC) Symposium, Tartu: Samuel Gessner & Arjen Dijkstra, 'Eisinga's Planetarium (1781) – a historical and technical reappraisal in view of its nomination for UNESCO World Heritage', *Symposium of the Scientific Instrument Commission,* University of Tartu, Estonia, 25-29 August 2014.
- European Society for the History of Science (ESHS) Conference, Lisbon: Arjen Dijkstra & Samuel Gessner, 'Eisinga's ceiling: The construction and reception of the largest planetarium of the eighteenth century', *6th International*

Conference of the European Society for the History of Science, Universidade de Lisboa, Lisbon, 8 September 2014.
- Société Européenne Astronomie et Culture (SEAC) Conference, Malta: Samuel Gessner, 'A wool comber's sky: a reappraisal of E. Eisinga's planetarium (1781)', *XXII SEAC Conference: The Materiality of the Sky,* Malta University, Valetta, Malta, 25 September 2014.

Overviews:
- Firebrace, W., Star Theatre, the Story of the Planetarium (2017).
- King, H.C. & Milburn, J.R., Geared to the Stars – The evolution of planetariums, orreries, and astronomical clocks (1979).
- Ungerer, A., Les horloges astronomiques et monumentales les plus remarquables de l'antiquité à nos jours, pp. 438-444 (1931).

Other publications:
- Beech, M., Great Sphere and Baron Munchausen's Queen-Mab Carriage: a possible ring of truth?
- *Bulletin of the Scientific Instrument Society* no. 134, pp. 6-12 (2017)
- Hoogveld, R., Kettingbreuken en het Planetarium van Christiaan Huygens (Continued fractions and the Planetarium of Christiaan Huygens), *Bachelor Thesis Radboud Universiteit Nijmegen* (2006).
- Huang, H.-F., Beyond Celestial Toys: Orreries and Public Astronomical Lectures in the Eighteenth Century, *Taiwanese Journal for Studies of Science, Technology and Medicine,* nr. 16 (April 2013), pp. 161-222.
- Huang, H.-F., Commercial and Sublime: Popular Astronomy Lectures in Nineteenth Century Britain, *PhD Thesis University College London* (March 2015).
- Marché, J.D. de, *Theaters of Time and Space – American Planetaria,* 1930-1970 (2005).
- Mulder de Ridder, J., Eise Eisinga and his planetarium, *Journal of Astronomical History and Heritage,* vol. 5, no. 1, pp. 65-87 (2002).
- Nieuwland, G.Y., Do mathematical models tell the truth?, *Nieuw Archief voor Wiskunde 5/1* nr.4 (December 2000).
- Oostrom, F. van, *A Key to Dutch History: The Cultural Canon of the Netherlands* (2007/2011).
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Policy 4c – Media

Action 4c1 – Active media approach
The media - the written press as well as radio, television and digital media - are actively approached to induce them to draw attention to the Planetarium. During the period 2010-2019, this resulted in an average of fifteen media communications per year.

Policy 4d – Education

Action 4d1 – Educational offer
Investigate to what extent adjustments are opportune for the educational offer, also in relation to the World Heritage Nomination.

Policy 4e – Never too young: Arts and culture programme 'Waadzinnig'

Action 4e1 – Never too young: Arts and culture programme 'Waadzinnig'
Every year an arts and culture programme for primary education is made in Waadhoeke. The programme has a continuous learning line for groups 1 to 8, and focuses on the themes: art, heritage landscape, life and multilingualism. All of Waadhoeke's primary schools, including special education, participate in this joint programme (approximately 3700 children).

The Planetarium is a permanent item in the culture programme.
In concrete terms, this means that all the primary school children in Waadhoeke visit the Planetarium during their school period and learn about Eise Eisinga, the Planetarium and the solar system. Consequently, we can say that from the start of the municipality of Waadhoeke, in 2018, all primary school children – and thus future generations – are 'brought up' with the Royal Eise Eisinga Planetarium. The Planetarium could not wish for better ambassadors!

Policy 4f – Franeker Academy

Action 4f1 – Franeker Academy
In collaboration with educational institutions, the business community and social organisations in the region, the Academy's education centre is responsible for dozens of educational activities for a variety of target groups. It provides these activities from its own Botnia Stins location in Franeker, via its own YouTube channel, and recently also via the regional broadcaster Omrop Fryslân. The historical common ground between the Academy and the Planetarium offers opportunities for interesting synergy benefits, in terms of both content and organisation. This has meanwhile resulted in a lecture by the director of the Planetarium about the 'starlit sky in wintertime', broadcast live on Omrop Fryslân.

Policy 4g – National & International co-operation

Action 4g1 – PLANed
Active contribution to the activities of PLANed, such as the annual meetings, project groups and conferences.

Action 4g2 – International Planetarium Society
Active contribution to the activities of the International Planetarium Society, such as the annual meetings, project groups and conferences.

Action 4g3 – International Astronomical Union
Participation in discussion forums on the portal of the International Astronomical Union.

Principle 5 - Management

Policy 5a – Active and proactive governance

Action 5a1 – Conservation, management and operation of the Planetarium
The board of the Royal Eise Eisinga Planetarium fulfils its statutory responsibility and, on that basis, does all that is required for the comprehensive conservation, management and operation. The administrative decisions to this end are not only functional but also create conditions.

Action 5a2 – Review Management Plan
Review of the World Heritage Site Management Plan on the basis of a 5-year cycle, including updates on the needs of the stakeholders and others where relevant.

Action 5a3 – World Heritage Convention
Review and share information on the obligations of the World Heritage Convention.

Action 5a4 – Implementation Management Plan
Oversee and coordinate the implementation of this Management Plan.

Action 5a5 – Adequate resources
Ensure that adequate resources are available for the effectuation of this Management Plan.

Action 5a6 – Fundraising
Identify fundraising opportunities for specific conservation, maintenance and engagement projects and secure funding for such projects.

Action 5a7 – Staffing initiatives
Seek funding to support staffing initiatives where appropriate.

Action 5a8 – Monitoring Programme and Plan
Develop full Monitoring Programme and Plan for the World Heritage Site, including timetable, budgets, etc.

Action 5a9 – Monitoring actions
Prepare biennial monitoring report on implementation of planned actions.

Action 5a10 – Reviewing priorities and progress actions
Review priorities and progress on planned actions at regular board meetings of the Royal Eise Eisinga Planetarium Foundation.

Action 5a11 – Review and update actions
Review and update planned actions on a 5-year basis.

Policy 5b – Optimally equipped management and staff

Action 5b1 – Reinforcement Planetarium staff
Further reinforcement of the staff, given the importance of a professional organisation in which qualified people are available in areas such as management, hospitality, education, finance, preservation and administration.

Action 5b2 – Training and education Planetarium
Continuous training and educational opportunities are made available to employees.

Action 5b3 – Programme of activities Planetarium
A rolling multi-year programme is being drawn up for activities including the planning of exhibitions (both permanent and temporary) and educational programmes.

Action 5b4 – Knowledge transfer Planetarium
The correct transfer of knowledge about the functioning and the necessary daily and periodic maintenance of the planetarium instrument will be ensured. The functioning is primarily described by Eise Eisinga in his 1783 manual. The associated and necessary knowledge is transmitted from one curator to the next.

Team members regularly attend courses to responsibly ensure preservation and management. Suitable materials are present to responsibly carry out the required maintenance work.

Action 5b5 – Expertise Planetarium
In order to preserve the specific planetarium instrument – in addition to the knowledge present within the planetarium team – expertise from outside the organisation is also called in for advice and support. There is an external team consisting of a clockmaker, a restoration painter and an artisan woodworker.

Action 5b6 – Maintenance planning Planetarium
A schedule for the regular maintenance of the Planetarium is progressively updated, which also involves keeping track of the availability of specialists for the long term.

Policy 5c – Accessible city

Action 5c1 – Reinforcement of traffic structure
The city's distinctive road and water structure, as well as its railway structure, will be reinforced where possible and desirable. Developments must fit within the existing structure as much as possible.

Action 5c2 – Traffic access
The historical structure of the city is still clearly visible in the road structure. This structure has remained largely intact. In the centre, the old road structure along the canals and the connections through alleys and narrow streets can be recognised. The ring road has been constructed around the first shell with residential areas outside the inner city in order to divert through traffic away from the centre. Franeker is conveniently located on the A31, the motorway between Leeuwarden and the A7 at Afsluitdijk, which provides a fast and direct connection to Amsterdam. The city is easily accessible from all directions. The ring road provides a good connection leading around the city, to reduce the strain of considerable and heavy traffic on the centre and the residential areas. The ring road south of the city was completed in 2012. The realisation of the ring road has made Franeker even more easily accessible.

Action 5c3 – Public transport
Franeker is located on the Leeuwarden-Harlingen railway line, through which it is connected to the national rail network. The train station is within walking distance of the city centre. In addition, Franeker is very easy to reach via multiple bus connections. There are several bus stops throughout the city. A number of these have been made accessible to the disabled. Tourist signposting marks the connection from the station (as the main public transport hub) to the Planetarium.

Action 5c4 – Mobility partners
The activation of mobility partners is being pursued, in relation to the anticipated World Heritage decision, to be taken mid-2023.

Policy 5d – Traffic & parking

Action 5d1 – Coach reception
On the car park at De Trije sports hall at Hertog van Sazenlaan/Jan Rodenhuisplein, three parking spaces have been reserved especially for coaches. In addition, a number of places will be reserved for coaches on the car park to be realised at Julianastraat.

Action 5d2 – Status quo paid parking
Parking in the entire inner city of Franeker is regulated by the paid parking regime. Between 10.00 a.m. and 6 p.m. (Saturdays until 5 p.m.) and on late shopping evenings (Fridays) there is paid parking within the canal structure on parking spaces with parking equipment. The objective of this is to achieve an effective distribution over the various parking spaces and to promote the flow of traffic and the accessibility of the centre. The inner city has approximately 545 parking spaces for which payment is required. Two rates apply: € 0,60 per hour for medium-term parking (a maximum of four hours) and € 1,20 per hour for short-term parking with a maximum parking duration of two hours. The short-term parking spaces are located in the centre, and the medium-term parking spaces at the edge of the centre. The parking spaces on Voorstraat are exclusively available for visitors. They are easily accessible and situated close to the core shopping area and public facilities. They are to be used exclusively for short-term parking (max. 2 hours) for visitors to the inner city. Permit holders are not allowed to use these spaces. Near the Planetarium there are several special parking spaces for the disabled. (http://www.centrumparkeren.nl/franeker)

Action 5d3 – Status quo free (long-term) parking
For visitors who are looking for a free parking space for a longer period of time, there are good, spacious and free parking facilities in areas located outside the ramparts at Hertog van Saxenlaan and Leeuwarderweg.

The parking facility at Hertog van Saxenlaan is of good quality and easily accessible. The walking distance to the core shopping area is approximately 500 metres, and the walking route is equipped with ANWB-signage. To draw visitors' attention to the presence and location of the free (long-term) parking spaces, signs have been placed on the approach roads. Parking for a maximum of 1.5 hours, using a parking disc, applies to half of the parking area at Leeuwarderweg. Very recently, parking spaces have been created adjacent to the town hall on Harlingerweg. A number of parking spaces with charging stations for electric cars have been realised on this site. All the locations are situated very close to the inner city. As a result, parking pressure in the inner city has decreased considerably. The parking guidance system leading to these free parking spaces, as well as the parking route from the approach roads into the inner city, have recently been improved and updated. To enable developments (with a view to parking demand at peak times), additional capacity will be created in the short term in the form of a site near Julianastraat. About 70 parking spaces can be realised here and there is room for 2 to 3 coaches. It takes about 10 minutes from there to walk to the Planetarium.

Action 5d4 – Parking access and supply routes
The (main) traffic flows for car traffic have been determined on the basis of efficient traffic circulation in the inner city. This has been translated into signage and one-way traffic, in order to prevent search traffic and cut-through traffic, and to create a good coordination between parking demand and supply. A main supply road has been specified to minimise the inconvenience for visitors to the inner city caused by supply traffic. The route for supply of the core shopping area runs through Hofstraat and through part of Dijkstraat. This supply route is indicated by signage and one-way traffic.

Policy 5e – Tourist information provision

Action 5e1 – Implementation Plan Tourist Information Provision Franeker
Part of 'Franeker pampers', (inner city management) is a review and update of the recreational information provision of the city of Franeker. This revision is currently (2021) taking place on the basis of the 'Implementation Plan Tourist Information Provision Franeker', through which general information provision on the walking routes into the city, physical city signage, and information on buildings, objects and locations via QR codes are implemented. The Implementation Plan has been drawn up on the basis of the theme Historic Academy City Franeker, and from that Unique Selling Point (USP) intends to inform visitors to the city as well and completely as possible about where to do, see and experience things.

Welcome signs and World Heritage signage
One of the components of the renewal of tourist signage in and around Franeker is the placing of welcome signs on the various approach roads into Franeker. These signs indicate the city's Unique Selling Point (USP), which includes the logo of the Planetarium. The government does not allow a municipality to simply place welcome signs along national roads such as the A31, which runs past Franeker. However, in the case of a World Heritage Site this is allowed. After the Planetarium has obtained UNESCO World Heritage status, signs will be placed with the text 'World Heritage Site Planetarium Franeker'. The welcome signs on the approach roads into Franeker are already taking this status into account. As soon as it is a fact, the strip covering the text in the frame at the bottom of the sign will be removed.

Action 5e2 – Inner city lighting
In 2019-2020, as part of 'Franeker pampers', the municipality of Waadhoeke has drawn up a lighting vision for the entre inner city of Franeker. This vision concerns public lighting, the highlighting of buildings, and ambient lighting. Meanwhile a lighting plan has been drawn up for a part of the inner city (Voorstraat, Dijkstraat, Stadhuisplein). The highlighting of buildings such as the town hall and the Planetarium is included in this plan. In brief, the lighting plan involves the renewal of the existing lighting by means of new energy-efficient lighting fixtures and techniques, with attention for the proper incidence of light and the prevention of light pollution. Implementation will start in 2021.

Table D. Scheme on principles, policies and actions

Key to terms

Year 1:	implementation of activities during the first year following the World Heritage decision
Ongoing:	permanent attention necessary
Short term:	within 3 years of inscription
Short-medium term:	within 5 years of inscription
Medium term:	5-10 years after inscription
Long term:	> 10 years after inscription

Key to abbreviations

c.s.:	cum suis (and associates)
GW:	Municipality of Waadhoeke
BKEEP:	Board Royal Eise Eisinga Planetarium
MKEEP:	Management Royal Eise Eisinga Planetarium
BMKEEP:	Board and Management Royal Eise Eisinga Planetarium
MW:	Monument Watch Fryslân
RCE:	Cultural Heritage Agency of the Netherlands
RWS:	Department of Waterways and Public Works
VRF:	Security region Fryslân

PRINCIPLE 1 Policy Number	PROTECTION & CONSERVATION Action	Timescale | Delivery Group
1a – National monument	1a1 – Permit regime national monuments	Ongoing | GW, RCE
1b – Protected cityscape	1b1 – Permit regime protected cityscape	Ongoing | GW, RCE
1c – Property of World Heritage	1c1 – Briefings and training World Heritage 1c2 – Heritage impact assessment 1c3 – Attributes of OUV	Year 1 | BMKEEP, RCE Year 1 | BMKEEP, GW, RCE Year 1 | BMKEEP, RCE
PRINCIPLE 2 **Policy Number**	**MANAGEMENT VISION** **Action**	**Timescale | Delivery Group**
2a – Security regions	2a1 – Security Regions Act	Ongoing | GW c.s.
2b – Security region Fryslân	2b1 – Security region Fryslân	Ongoing | GW c.s.
2c – Monument Watch	2c1 – Monument Watch inspection structural condition 2c2 – Monument Watch inspection report 2c3 – Implementation recommendations Monument Watch	Ongoing | MW Ongoing | MW Ongoing | BMKEEP, GW
2d – Property of World Heritage	2d1 – Protocol environment and property 2d2 – Process environment and property	Year 1 | BKEEP, GW Year 1 | BKEEP, GW
PRINCIPLE 3 **Policy Number**	**COMMUNITY BENEFIT** **Action**	**Timescale | Delivery Group**
3a – Inner city management	3a1 – Franeker Waddenpoort 3a2 – Brand Fryslân 3a3 – Destination Noardwest 3a4 – City promotion and Citymarketing 3a5 – The Franeker Identity 3a6 – Programming 3a7 – Activities and events 3a8 – Recreational boating	Ongoing | GW c.s. Ongoing | GW c.s. Ongoing | GW c.s. Ongoing | GW c.s. Ongoing | GW c.s. Ongoing | GW c.s. Ongoing | GW c.s. Medium term | GW c.s.
3b – Marketing & Promotion World Heritage Site	3b1 – World Heritage Line 3b2 – Universe Line	Short-medium term | BMKEEP c.s. Short-medium term | BMKEEP c.s.
3c – Leeuwarden Friesland 2018 European Capital of Culture	3c1 – Oort Cloud Fountain	Ongoing | GW
3d- Public Events	3d1 – Varied range public events	Ongoing | MKEEP c.s.
3e – Workshops	3e1 – Introductory memorandum workshops	Short term | MKEEP
3f – Cultural Historic City Trail	3f1 – Preparation Cultural Historic City Trail	Short term | GW, BMKEEP c.s.
3g – Annual Royal Week	3g1 - Network 'Royal Week'	Medium term | BMKEEP c.s.
PRINCIPLE 4 **Policy Number**	**PRESENTATION & TRANSMISSION TO FUTURE GENERATIONS** **Action**	**Timescale | Delivery Group**
4a – Sharing Values	4a1 – Accessibility Planetarium	Ongoing | MKEEP
	4a2 – Information desk Planetarium 4a3 – Planetarium room 4a4 – Exhibitions Planetarium 4a5 – Education Planetarium 4a6 – Lectures Planetarium 4a7 – Special activities Planetarium	Ongoing | MKEEP Ongoing | MKEEP Ongoing | MKEEP Ongoing | MKEEP Ongoing | MKEEP Ongoing | MKEEP
4b – Scientific research	4b1 – Publications scientific research	Ongoing | BKEEP c.s.
4c – Media	4c1 – Active media approach	Ongoing | MKEEP
4d – Education	4d1 – Educational offer	Ongoing | MKEEP
4e – 'Waadzinnig'	4e1 – Never too young: Arts and culture programme 'Waadzinnig'	Ongoing | MKEEP
4f – Franeker Academy	4f1 – Franeker Academy	Ongoing | GW, BKEEP c.a.
4g – National & International co-operation	4g1 – PLANed 4g2 – International Planetarium Society 4g3 – International Astronomical Union	Ongoing | BMKEEP Ongoing | BMKEEP Ongoing | BMKEEP
PRINCIPLE 5 **Policy Number**	**MANAGEMENT** **Action**	**Timescale | Delivery Group**
5a – Active and proactive governance	5a1 – Conservation, management and operation Planetarium 5a2 – Review Management Plan 5a3 – World Heritage Convention 5a4 – Implementation Management Plan 5a5 – Adequate resources 5a6 – Fundraising 5a7 – Staffing initiatives 5a8 – Monitoring Programme and Plan 5a9 – Monitoring actions 5a10 – Reviewing priorities and progress actions 5a11 – Reviewing and updating actions	Ongoing | BKEEP Short-medium term | BKEEP Ongoing | BKEEP Year 1 | BMKEEP Ongoing | BKEEP Ongoing | BKEEP Ongoing | BMKEEP Year 1 | BMKEEP Year 1 | BMKEEP Year 1 | BMKEEP Short-medium term | BMKEEP
5b – Optimally equipped management and staff	5b1 – Reinforcement staff Planetarium 5b2 – Training and education Planetarium 5b3 – Programme of activities Planetarium 5b4 – Transfer of knowledge Planetarium 5b5 – Expertise Planetarium 5b6 – Maintenance scheme Planetarium	Ongoing | BKEEP Ongoing | MKEEP Ongoing | MKEEP Ongoing | MKEEP Ongoing | MKEEP Ongoing | MKEEP
5c – Accessible city	5c1 – Reinforcement traffic structure 5c2 – Traffic access 5c3 – Public transport 5c4 – Mobility partners	Ongoing | GW Ongoing | GW Ongoing | GW Medium term | BKEEP c.s.
5d – Traffic & parking	5d1 – Reception coaches 5d2 – Status quo paid parking 5d3 – Status quo free (long-term) parking 5d4 – Parking access and supply routes	Short term | GW Ongoing | GW Ongoing | GW Ongoing | GW
5e – Tourist signage	5e1 – Masterplan tourist signage 5e2 – Brown Shields World Heritage	Year 1 | GW Year 1 | GW, RWS, BKEEP

5.4 TIMETABLE FOR THE FIRST YEAR

Remark: ongoing activities are mentioned in the scheme below, as far as these activities directly and physically concern the nominated property.

Table E. Timetable for the first year.

Time frame	2022 Action
January	Submit Nomination File to UNESCO World Heritage Centre
Autumn	Site visit/inspection
Time frame	**2023 Action**
July	Decision of the World Heritage Committee
July	Presentation and celebration of inscription
September	5a3 – Reviewing and sharing information on the obligations of the World Heritage Convention
Autumn	5e1 – Masterplan tourist signage
Autumn	5e2 – Brown Shields World Heritage
Autumn	1c1 – World Heritage briefings and training staff and stakeholders
Winter	1c3 – Establishing process for annual review of the condition of the attributes of the OUV (part of the Monitoring Programme and Plan)
Ongoing	5a1 – Conservation, management and operation Planetarium
Ongoing	5a4 – Overseeing and coordinating the implementation of the Management Plan
Ongoing	5a5 – Providing adequate resources
Ongoing	5a6 – Fundraising activities
Ongoing	5a10 – Reviewing priorities and progress on planned actions at regular board meetings of the Royal Eise Eisinga Planetarium Foundation
Time frame	**2024 Action**
Spring	2c1 – Monument Watch inspection structural condition
Spring	2c2 – Monument Watch inspection report
Spring	2c3 – Implementation recommendations Monument Watch
Spring	5a8 – Developing full Monitoring Programme and Plan for the World Heritage Site, including timetable, budgets, etc.
Summer	2d1 – Implementing protocol for undertaking annual assessments of the environmental circumstances and prospect of environmental issues
Summer	2d2 – Establishing process for undertaking annual assessments of the environmental circumstances and prospect of environmental issues.
September	5a3 – Reviewing and sharing information on the obligations of the World Heritage Convention
Autumn	1c2 – Implementing protocol for undertaking heritage impact assessments (compliant with ICOMOS process)
Winter	5a9 – Preparing biennial monitoring report on implementation of planned actions
Ongoing	5a1 – Conservation, management and operation Planetarium
Ongoing	5a4 – Overseeing and coordinating the implementation of the Management Plan
Ongoing	5a5 – Providing adequate resources
Ongoing	5a6 – Fundraising activities
Ongoing	5a10 – Reviewing priorities and progress on planned actions at regular board meetings of the Royal Eise Eisinga Planetarium Foundation

5.5 STRATEGIC TIMETABLE FOR THE FIRST FIVE YEARS

Table F. Strategic timetable for the first five years.

Policy	ONGOING Action
1a – National monument	1a1 – Permit regime national monuments
1b – Protected cityscape	1b1 – Permit regime protected cityscape
2a – Security regions	2a1 – Security Regions Act
2b – Security region Fryslân	2b1 – Security region Fryslân
2c – Monument Watch	2c1 – Monument Watch inspection structural condition
2c – Monument Watch	2c2 – Monument Watch inspection report
2c – Monument Watch	2c3 – Implementation recommendations Monument Watch
3a – Inner city management	3a1 – Franeker Waddenpoort
3a – Inner city management	3a2 – Brand Fryslân
3a – Inner city management	3a3 – Destination Noardwest
3a – Inner city management	3a4 – City promotion and Citymarketing
3a – Inner city management	3a5 – The Franeker identity
3a – Inner city management	3a6 – Programming
3a – Inner city management	3a7 – Activities and events
3c – Leeuwarden Friesland 2018 European Capital of Culture	3c1 – Oort Cloud Fountain
3d – Public events	3d1 – Varied range public events
4a – Sharing Values	4a1 – Accessibility Planetarium
4a – Sharing Values	4a2 – Information desk Planetarium
4a – Sharing Values	4a3 – Explanation planetarium room
4a – Sharing Values	4a4 – Exhibitions Planetarium
4a – Sharing Values	4a5 – Education Planetarium
4a – Sharing Values	4a6 – Lectures Planetarium
4a – Sharing Values	4a7 – Special activities Planetarium
4b – Scientific research	4b1 – Publications scientific research
4c – Media	4c1 – Active media approach
4d – Education	4d1 – Educational offer
4e – 'Waadzinnig'	4e1 – Never too young: Arts and culture programme 'Waadzinnig'
4f – Franeker Academy	4f1 – Franeker Academy
4g – National & International co-operation	4g1 – PLANed
4g – National & International co-operation	4g2 – International Planetarium Society
4g – National & International co-operation	4g3 – International Astronomical Union
5a – Active and proactive governance	5a1 – Conservation, management and operation Planetarium
5a – Active and proactive governance	5a3 – World Heritage Convention reviewing and sharing information
5a – Active and proactive governance	5a5 – Adequate resources
5a – Active and proactive governance	5a6 – Fundraising
5a – Active and proactive governance	5a7 – Staffing initiatives
5b – Optimally equipped management and staff	5b1 – Reinforcement Planetarium staff
5b – Optimally equipped management and staff	5b2 – Training and education Planetarium
5b – Optimally equipped management and staff	5b3 – Activities programme Planetarium

5b – Optimally equipped management and staff	5b4 – Transfer of knowledge Planetarium
5b – Optimally equipped management and staff	5b5 – Expertise Planetarium
5b – Optimally equipped management and staff	5b6 – Maintenance scheme Planetarium
5c – Accessible city	5c1 – Reinforcement traffic structure
5c – Accessible city	5c2 – Traffic access
5c – Accessible city	5c3 – Public transport
5d – Traffic & parking	5d2 – Status quo paid parking
5d – Traffic & parking	5d3 – Status quo free (long-term) parking
5d – Traffic & parking	5d4 – Parking access and supply routes
YEAR 1 **Policy**	**2023-2024** **Action**
1c – Property of World Heritage	1c1 – Briefings and training World Heritage
1c – Property of World Heritage	1c2 – Heritage impact assessment
1c – Property of World Heritage	1c3 – Attributes of OUV
2d – Property of World Heritage	2d1 – Protocol environment and property
2d – Property of World Heritage	2d2 – Process environment and property
5a – Active and proactive governance	5a4 – Implementation Management Plan
5a – Active and proactive governance	5a8 – Monitoring Programme and Plan
5a – Active and proactive governance	5a9 – Monitoring actions
5a – Active and proactive governance	5a10 – Reviewing priorities and progress actions
5e – Tourist signage	5e1 – Masterplan tourist signage
5e – Tourist signage	5e2 – Brown Shields World Heritage
YEAR 2 **Policy**	**2025** **Action**
3e – Workshops	3e1 – Introductory memorandum workshops
3f – Cultural Historic City Trail	3f1 – Preparation Cultural Historic City Trail
5d – Traffic & parking	5d1 – Reception coaches
YEAR 3 **Policy**	**2026** **Action**
3b – Marketing & Promotion World Heritage Site	3b1 – World Heritage Line
YEAR 4 **Policy** **YEAR 5** **Policy**	**2027** **Action** **2028** **Action**
3a – Inner city management	3a8 – Recreational boating
3g – Annual Royal Week	3g1 – Network 'Royal Week'
5a – Active and proactive governance	5a2 – Review Management Plan
5a – Active and proactive governance	5a11 – Review and update actions

6. *Implementation*

6.1 FINANCIAL RESOURCES

Overview

The Royal Eise Eisinga Planetarium is supported by various public authorities. It also regularly calls upon regional and national funds.

Municipality of Waadhoeke

The Royal Eise Eisinga Planetarium has a subsidy agreement with the municipality of Waadhoeke, under which the operating subsidy for the Planetarium is sustainably organised. In this subsidy agreement, the required best effort obligations are specified.
The board of the Royal Eise Eisinga Planetarium Foundation annually submits a substantive and financial report to the municipality of Waadhoeke, in which the activities realised are described.

Province of Fryslân

With effect from 2021, the Royal Eise Eisinga Planetarium has also been included in the Provincial Subsidy Structure, in addition to the subsidy agreement with the municipality of Waadhoeke.

National government

The national government supports the Royal Eise Eisinga Planetarium in the World Heritage trajectory by making funds available for the preparation of the Nomination File and for the World Heritage procedure. The national government also provides administrative support of the World Heritage procedure by means of the deployment of officials from the Cultural Heritage Agency of the Netherlands.

The national government wants to stimulate the care of protected monuments, giving priority to the World Heritage Sites in the Netherlands. It does this, for example, by granting owners subsidies for maintenance and restoration or to enable adaptive re-use in the event of imminent vacancy.
Current regulations which are of importance to the Planetarium are:

- Subsidy scheme Monument Preservation (SIM) – Owners of national monuments that are not residential buildings can apply for this subsidy scheme. The SIM is intended for regular maintenance costs, based on a six-year maintenance plan. Applications can be submitted from 1 February to 31 March.
- In addition to a government subsidy, monument owners can apply for a loan from the Restoration Fund or make use of one of the provincial restoration schemes. Also, there are funds such as the Culture Fund, that can offer financial support in case of restoration of special objects, interiors and monuments.

Friends of the Planetarium

In 1996 the Friends of the Royal Eise Eisinga Planetarium Foundation was established, with a core of more than 300 donors. The Board of the Friends Foundation manages the funds of the donors. The Planetarium management can call upon these funds for the support of, for example, purchases, restorations and special projects.

Funds

In addition to the structural support from the various public authorities as described above, the Royal Eise Eisinga Planetarium regularly calls upon regional and national funds. Applications are made in case of special projects, such as educational programmes, expansions and purchases.

Future management of the nominated property

In the current set-up, with the expanded exhibition spaces and facilities, visitors can be given a proper welcome. With an expected further increase in the number of visitors, the Royal Eise Eisinga Planetarium Foundation has made preparatory agreements with the adjacent building complex of theatre De Koornbeurs, see also chapter 4.3. With this expansion, the possibility arises to supplement the ‘real time’ Planetarium with a representation of accelerated motion of the planets. This would literally add further dynamism to the presentation of the planetary kingdom. Moreover, the

connection with theatre De Koornbeurs offers the opportunity to optimally spread out the visit to the Planetarium, both spatially and timewise. Meanwhile, steps have been taken in this connection towards the further reinforcement of the organisation. Both the municipality of Waadhoeke and the province of Fryslân have made subsidies available for this purpose.

Optimised organisation

Since the beginning of this century, the Planetarium has experienced strong growth, both as regards the size of the location (from 1 to three buildings) and the number of visitors (more than doubled, from 30,000 to 65,000 visitors). Thanks to initiatives such as the additional financial support from the municipality of Waadhoeke and the province of Fryslân, the organisation is being optimised. In 2020, this started under the current director, when the combined director/curator function was unbundled, with the appointment of a part-time (50%) curator. The director focuses on matters such as organisation and external contacts, while the curator attends to collection management, maintenance of the Planetarium, research, etc. As from January 2020, the desk and telephone work of the director has been taken over by additional deployment of Planetarium employees. This allows the director to increase the focus on his necessary tasks. As per 2021, the existing team is being reinforced by a part-time museum educator and additional employees, so that the daily presence of two employees is extended to three people. This creates more space for employees to devote time and attention to their substantive tasks.

Major Capital Expenditure

The Royal Eise Eisinga Planetarium has structural operation subsidy agreements with the municipality of Waadhoeke and the province of Fryslân. For the next four years, this will be € 210,000 and € 80,000 per year respectively. This means that the annual operation is guaranteed. With the Planetarium's own income (approximately € 300,000 per year) added to this, it can be concluded that management is sound, and that there is room for reservations for the required maintenance and investments.

For one-off investments with regard to special projects – such as the two expansions that have been realised – regional, national and international funds are called upon. In 2008, Eise Eisinga's original building was expanded with the adjacent building of the former coffee roasting facility of Van Balen. This property is leased from the Hendrick de Keyser Association. An amount of € 315,000 was required to connect the building with the original location and furnish it to make it suitable as a museum. This amount was entirely covered by funds and government authorities (Friends of the Planetarium, municipality of Franekeradeel, province of Fryslân, European Leader Fund, VSB Fund, Prince Bernhard Culture Fund and an anonymous foundation).

The expansion with a third building in 2016 (which includes the new entrance and a visitor centre with an interactive, educational exhibition) required an investment of € 1,100,000. This expansion, too, was entirely covered by external funds, so that it did not engage the Planetarium's operational budget. The expansion was financially covered by contributions from the municipality of Franekeradeel (now the municipality of Waadhoeke), the province of Fryslân, the Cultural Heritage Agency of the Netherlands, BankGiro Lottery, Foundation for the preservation of Franeker Urban Beauty (Franeker Stadsschoon), VSB Fund, Prince Bernhard Culture Fund, P.W. Janssen's Frisian Foundation, Wassenbergh-Clarijs-Fontein Foundation, Mondriaan Fund, Herbert Duintjer Fund Foundation, Meindersma-Sybenga Foundation, Juckema-Siderius Fund Foundation, Ritske Boelema Hospital Foundation, Klaarkampster Orphanage Foundation, ANWB Fund, Countess van Bylandt Foundation, Friends of the Planetarium Foundation and the J.E. Jurriaanse Foundation. The substantial commitment of this large number of beneficiaries testifies to the wide support of the Planetarium in society.

Economic value

Due to its exceptional character, the Royal Eise Eisinga Planetarium's allure goes beyond just Franeker or Friesland. National and international media attention is paid to the Planetarium every year. The economic value of this attention is considerable. Also, the direct visitors to the Planetarium and their stay in the region provide a financial injection for the municipality and the province. On average, around € 20 is spent per visitor outside the Planetarium. This means that the Planetarium is currently stimulating the local economy by approximately € 1,300,000 per year.

60. Planetarium, signing Charter UNESCO World Heritage Nomination, 18 June 2020.

61. Planetarium, Charter UNESCO World Heritage Nomination, 18 June 2020.

6.2 TEAMS

World Heritage Site Steering Committee

The process leading to the UNESCO World Heritage status of the Royal Eise Eisinga Planetarium is supervised by the World Heritage Nomination Team. This team includes a delegation from the board of the Royal Eise Eisinga Planetarium Foundation, as well as the director of the Planetarium, the mayor of the municipality of Waadhoeke, an official of the municipality of Waadhoeke and the external World Heritage Nomination Project Manager.
The Nomination Team has regular consultations with the official advisors of the Cultural Heritage Agency of the Netherlands.

In the Charter UNESCO World Heritage Nomination Royal Eise Eisinga Planetarium, the responsibilities of the municipality of Waadhoeke, the province of Fryslân and the Royal Eise Eisinga Planetarium Foundation are laid down **<60, 61>.** A Steering Committee with representatives from these sectors has consultations in accordance with a fixed meeting schedule. It is assisted by official advisors of the Cultural Heritage Agency of the Netherlands and the World Heritage Nomination Project Manager.

Board and Management of the Royal Eise Eisinga Planetarium and Reference Group

Since 2001, the Royal Eise Eisinga Planetarium has been managed and operated by the board and management of the Royal Eise Eisinga Planetarium Foundation.
The board of the foundation consists of five members and has representatives from scientific fields (University of Groningen and scientific journalism), the financial world (accountancy) and local connections.

The day-to-day business is carried out by a director and nine employees. Each of the employees has a specific task in the organisation, such as preservation and management, preparing exhibitions and education. Within the organisation, great importance is attached to the explanation in the planetarium room. Each of the employees plays a part in this explanation, and every visitor is given a professional and educationally sound explanation.

The UNESCO World Heritage Nomination of the Royal Eise Eisinga Planetarium is supported by a Reference Group, comprising the following persons:

- Arno A.M. Brok MSc, King's Commissioner in the province of Fryslân, also chairman of the Reference Group
- Prof. Peter D. Barthel, emeritus professor of Astrophysics and Active Galaxies, University of Groningen
- Prof. Robbert H. Dijkgraaf, director of the Institute for Advanced Study in Princeton (USA) and professor of Theoretical Physics, University of Amsterdam
- Prof. Edward P.J. van den Heuvel, emeritus professor of Astronomy, University of Amsterdam
- Ms. Claudy Jongstra, international visual artist – textile designer
- Dr André Kuipers, astronaut, European Space Agency
- Prof. Henk W. van Os, former director Rijksmuseum Amsterdam, professor of Art and Cultural History, University of Groningen and University of Amsterdam
- Prof. Maarten van Rossem, emeritus professor of History, Utrecht University

With a core of more than 300 donors living throughout the Netherlands, the Friends of the Royal Eise Eisinga Planetarium Foundation represents important social support. The board of the Friends Foundation manages the funds of the donors. The Planetarium management can call upon these funds for the support of, for example, purchases, restorations or special projects.

Mayor and Aldermen of the municipality of Waadhoeke (ownership)
The municipality of Waadhoeke has been the owner since the national government transferred the Royal Eise Eisinga Planetarium to the then municipality of Franeker, later the municipality of Franekeradeel, on 25 February 1859. On 1 January 2018, this municipality was merged into the municipality of Waadhoeke. The mayor and aldermen are very much committed to the Planetarium and the nomination process. They have made a strong case for structurally increasing the subsidy, so as to enable the Planetarium to reinforce its staff formation. The mayor of the municipality of Waadhoeke is also a member of the Nomination Team.

Pursuant to article 172 of the Municipalities Act, the mayor is charged with maintaining public order in the municipality. To support and advise the mayor 24/7 in this respect, the municipality of Waadhoeke has a Public Order and Safety (OOV) team.

One of the tasks of the OOV team is the setting up of the crisis organisation. To this end, mainly in collaboration with the security region Fryslân, an annual training plan is drawn up for the various crisis officers. By repeatedly practicing in different crisis situations, the officers learn to anticipate possible dilemmas in the organisation.

The OOV team is also responsible for the coordination and support of the 'Officer in Charge of Population Care' (OvD-Bz) picket group. The OvD-Bz is the first officer to be called up in the event of an incident. Within 30 minutes after the call, the OvD-Bz will start his work. He will go to the scene of the incident and will take care of the handling of the processes for which the municipality is responsible. He does this in consultation with the other emergency services, that will also be present at the scene of the incident. This officer is also available 24/7 for the municipality of Waadhoeke.

University of Groningen
The Eise Eisinga Planetarium ensures that the scientific level of the presentation in the Planetarium is sufficiently guaranteed, through various forms of cooperation with the University of Groningen.
Astronomer Jan Allerd de Boer of the University of Groningen, for example, is a member of the board of the Royal Eise Eisinga Planetarium Foundation. Emeritus professor of Astronomy Peter Barthel of the University of Groningen is a member of the Reference Group for the nomination of the Planetarium for inscription on the World Heritage List.
The University of Groningen has also been called upon for the scientific historical research into Eise Eisinga and his Planetarium for the World Heritage File. On behalf of the Planetarium, historian Dr. Arjen Dijkstra has conducted extensive source research. Dijkstra is currently working on a biography of Eise Eisinga.
On a daily basis, the curator of the Planetarium maintains contacts with the University Museum of the University of Groningen. Knowledge about 18th-century natural sciences is shared in this way.

7. Monitoring Plan

INTRODUCTION

Structural management and maintenance

The Royal Eise Eisinga Planetarium is privileged to have been publicly owned since 1825. Initially by the national government, through the purchase of the Planetarium by King William I. From 1859 by the municipality of Franeker (later the municipality of Franekeradeel, and from 2018 the municipality of Waadhoeke) with the transfer of ownership from the national government. For almost 200 years, public authorities have been responsible for the preservation of all the components of the Planetarium. As a result, all the attributes as the basis for the OUV of the property are under the management of public authorities and as such are continuously monitored.

The municipality of Waadhoeke, as the owner since 2001, has delegated the implementation of maintenance and management to the Royal Eise Eisinga Planetarium Foundation. The board of the foundation charges the director of the Planetarium with the daily and periodic management of a group of experts consisting of a permanent core of a clockmaker, a restoration painter and an artisan woodworker, hereinafter referred to as the Planetarium Maintenance Expert Team.
On behalf of the management, monitoring of the monumental building is carried out every two years by experts of the Monument Watch Fryslân Foundation.
For any necessary substantiation of maintenance and conservation measures, there is a collaboration with experts of the University Museum Groningen and the Cultural Heritage Agency of the Netherlands.

Internal expertise is available for any emergency repairs to the Planetarium; measures considered desirable can be taken instantly.
In the event of unforeseen structural problems, the director of the Planetarium commissions external experts from the relationship network of the Royal Eise Eisinga Planetarium to carry out research and repairs without delay, if necessary in close consultation with experts from the municipality of Waadhoeke and the Cultural Heritage Agency of the Netherlands.

For all the measures taken with regard to the Planetarium, the management acts as supervisor and rapporteur to the foundation board and the owner of the property.

The planetarium instrument is subject to daily management and maintenance by the staff of the Royal Eise Eisinga Planetarium.

Visitor management and safety

The Planetarium has a Safety and Evacuation Plan, in which the management of the building is described in detail. This plan is continuously updated. Once or twice a year, the procedures are run through with all the employees.
Every two years the plan is reviewed with the Fire Brigade Fryslân. During this review, the procedures are run through with the members of the fire service.

The board and management of the Royal Eise Eisinga Planetarium are charged with the care of and responsibility for an optimally functioning visitor management, under the condition of a (virtually) daily opening to the public. The actions to be taken in this respect are carefully considered and carried out, with the inviolability of the attributes and the OUV as the premise.

Aspects World Heritage Site

Following the World Heritage Decision, the current practice of management and maintenance - as recorded in the manuals of Eise Eisinga at the time of the completion of the Planetarium in 1781 and as continuously realised since then – will be anchored in the monitoring practice as prescribed for UNESCO World Heritage Sites.

This specifically concerns:

Policy 1c – Property of World Heritage: application and implementation of all that is necessary in the context of the World Heritage status of the property.

- **Action 1c1 – Briefings and training World Heritage:** Provide briefings and training for all staff and stakeholders on the OUV, Integrity and Authenticity of the World Heritage Site and on this Management Plan and Action Plan.
- **Action 1c2 – Heritage impact assessment**: Implement protocol for undertaking heritage impact assessments (compliant with ICOMOS process).
- A**ction 1c3 – Attributes of OUV:** Establish process for annual review of the condition of the attributes of the OUV (part of the Monitoring Programme and Plan).

Policy 2d – Property of World Heritage: Annual review of developments regarding anticipated and actual risks and their impact on Management Strategies.

- **Action 2d1 – Protocol environment and property:** Implement protocol for undertaking annual assessments of the environmental circumstances and prospect of environmental issues.
- **Action 2d2 – Process environment and property:** Establish process for undertaking annual assessments of the environmental circumstances and prospect of environmental issues.

Policy 5a – Active and proactive governance: through their expertise, the board and the management of the Royal Eise Eisinga Planetarium Foundation are equipped to actively and proactively, in a clear and direct manner, fulfil their responsibility for the comprehensive conservation, management and operation of the property, resulting in the following Actions directly related to the status of World Heritage Site, such as:

- **Action 5a2 – Review Management Plan:** Review the World Heritage Site Management Plan on the basis of a 5-year cycle, including updates on the needs of the stakeholders and others as relevant.
- **Action 5a3 – World Heritage Convention:** Review and share information on the obligations of the World Heritage Convention.
- **Action 5a4 – Implementation Management Plan:** Oversee and coordinate the implementation of this Management Plan.
- **Action 5a5 – Adequate resources:** Ensure adequate resources are available for the delivery of this Management Plan.
- **Action 5a8 – Monitoring Programme and Plan:** Develop full Monitoring Programme and Plan for the World Heritage Site, including timetable, budgets, etc.
- **Action 5a9 – Monitoring actions:** Prepare biennial monitoring report on implementation of planned actions.
- **Action 5a10 – Reviewing priorities and progress actions:** Review priorities and progress on planned actions at regular board meetings of the Royal Eise Eisinga Planetarium Foundation.
- **Action 5a11 – Reviewing and updating actions:** Review and update planned actions on a 5-year basis.

7.1 INDICATORS

Below, a table is presented with the most important indicators, classified according to the elements or categories of the property. The frequency of the assessment of each of these indicators is also included.

Table G. Category, Periodicity and Indicators

CATEGORY	PERIODICITY	INDICATOR
Condition of the property	Annually	Description of maintenance tasks undertaken, including: • Engineering specification if relevant • Budget • Time taken • Illustrated by photographs as appropriate • Comments from conservation officer and Cultural Heritage Agency of the Netherlands as appropriate
Conservation projects	Annually	Report on conservation projects underway, to include: • Description of work and engineering specifications • Heritage impact assessment • Comments from conservation officer and Cultural Heritage Agency of the Netherlands as appropriate • Period of work • Required budget • Illustrated by photographs as appropriate Reports on any major conservation projects likely to be required in future, to include: • Description of work including extent of structure concerned, engineering specifications • Comments from conservation officer and Cultural Heritage Agency of the Netherlands as appropriate • Period of work from start • Required budget
Repairs and maintenance	Annually	• General update on use of building • Description of any works carried out, including budget, estimate of time taken, illustrated by photographs as appropriate • Relevant heritage impact assessments • Report from conservation officer on any works to listed building • Description of any future work identified to be required, including estimated budget and time required, illustrated by photographs as appropriate • Photographs of the property from several specified external and internal locations, for comparison to previous years
Aspects of visitation	Annually	• Visitor numbers • Evaluation of visitor satisfaction • Education programme numbers • Evaluation of education programme • Assessment of level of impact on property
Safety and evacuation	Annually	Safety and Evacuation Plan, to include: • Description of maintenance of the property • Continuous, or at least annual update • Once or twice a year the procedures are run through with all the employees • Every two years this plan is evaluated with the Fire Brigade Fryslân • During this evaluation, the procedures are run through with the fire service team
Comprehensive inspection of the building, condition survey of the National Monument	Every two years	Monument Watch Fryslân Foundation, to include: • Inspection structural condition • Monument Watch inspection report • Implementation recommendations Monument Watch
Comprehensive inspection planetarium instrument, condition survey	Every two years	Planetarium Maintenance Expert Team, to include: • Inspection physical and technical condition • Inspection report Planetarium Maintenance Expert Team • Implementation recommendations Planetarium Maintenance Expert Team
Condition survey of the property	Every five years	Condition survey report to collate the annual reporting and provide update to the Conservation Management Plan
Conservation	Every five years	Updated version of Conservation Management Plan
Area adjacent to the property	Every five years	• Development pressures • Environmental pressures • Natural disasters and risk preparedness • Traffic pressures • Event pressures • Crime pressures

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Koninklijk
Eise Eisinga
PLANETARIUM

GEMEENTE
waadhoeke

provinsje fryslân
provincie fryslân

Rijksdienst voor het Cultureel Erfgoed
Ministerie van Onderwijs, Cultuur en Wetenschap

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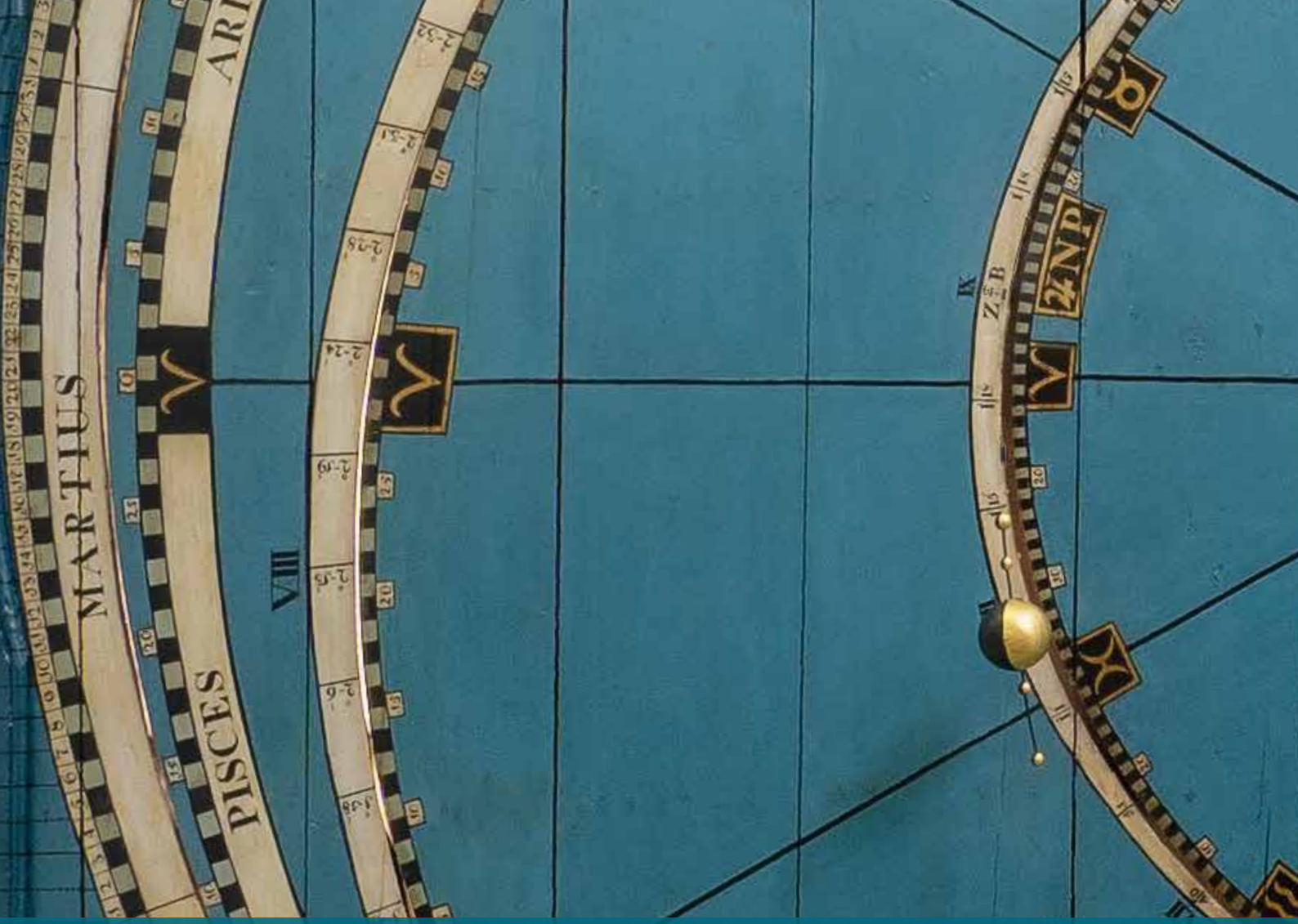
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