

## La Chaux-de-Fonds/Le Locle (Switzerland)

No 1302

*Official name as proposed  
by the State Party:*

La Chaux-de-Fonds/Le Locle,  
Watchmaking town planning

*Location:*

Republic and Canton of  
Neuchâtel,  
Switzerland

*Brief description:*

The towns of La Chaux-de-Fonds and nearby Le Locle in the mountains of the Swiss Jura illustrate an original kind of urban development, totally dedicated to watchmaking. This has led to an urban planning scheme consisting of parallel strips which is both rational and pragmatic, a close and sustainable intermingling of housing and workshops, and an architectural idiom that is directly related to working practices. These characteristics have existed since the origins of the urban planning of the two towns, at the beginning of the 19th century, reflecting a professional watchmaking culture that is even older and which is still alive, as reflected in its various socio-technical adaptations to changes in watchmaking and its markets.

*Category of property:*

In terms of the categories of cultural property, as defined in Article 1 of the 1972 World Heritage Convention, this is a *group of buildings*.

### 1. BASIC DATA

*Included in the Tentative List:* 28 December 2004

*International Assistance from the World Heritage Fund for preparing the Nomination:* None

*Date received by  
the World Heritage Centre:* 21 December 2007

*Background:* This is a new nomination.

*Consultations:* ICOMOS has consulted the International Committee for the Conservation of the Industrial Heritage (TICCIH).

*Literature consulted (selection):*

Barrelet, J.-M., and Ramseyer, J., *La Chaux-de-Fonds ou le défi d'une cité horlogère 1848–1914*, La Chaux-de-Fonds 1990.

Fallet, E., and Cortat, A., *Apprendre l'horlogerie dans les Montagnes neuchâtelaises, 1740–1810*, La Chaux-de-Fonds 2001.

*Le Locle horloger: guide sur les pas des horlogers loclois d'autrefois et d'aujourd'hui*, Le Locle 2005.

Cop, Raoul, *Histoire de La Chaux-de-Fonds*, Le Locle 2006.

Pasquier, Hélène, *La 'Recherche et Développement' en horlogerie. Acteurs, stratégies et choix technologiques dans l'Arc jurassien suisse' (1900–1970)*, Neuchâtel, Alphil, 2008.

*Technical Evaluation Mission:* 16–19 September 2008

*Additional information requested and received from the State Party:* ICOMOS sent a letter to the State Party on 9 December 2008 asking it to provide additional information to demonstrate the symbiosis linking the testimony of urban planning and architecture with the watchmaking industry and its professional practices, and details about economic and urban development projects under way for the property and its buffer zone.

The State Party replied on 26 February 2009, supplying two detailed addenda to the dossier in response to the requests of ICOMOS, and a detailed version of the management plan for the property adopted in February 2009. An analysis of this documentation is included in this evaluation.

*Date of ICOMOS approval of this report:* 10 March 2009

### 2. THE PROPERTY

#### *Description*

In their parallel urbanisation processes, the towns of La Chaux-de-Fonds and Le Locle have never had any clearly defined boundaries or fortifications. Although conceived on the basis of regular and rational plans, they are not the materialisation of an urban Utopia or an ideal city, even if they are sometimes referred to as 'American-style' towns because of their orthogonal grid of streets. They are towns entirely intended for watchmaking, first as a craft and then as an industry, over a history of some three centuries, which affected the Jura region as a whole.

The intricate interweaving of manufacturing activities, housing and collective infrastructure is an essential feature of the urban structure. These are two very similar and historically parallel examples organised by a mono-industrial activity. They embody an urban landscape which is characteristic of watchmaking development and its evolution over time, in the mountains of the Swiss Jura. The two towns are at an altitude of some 1000m and are very close to the border with France. They have a severe mountain climate in the winter, their soils are not favourable for agriculture, and they are situated some distance away from the main axes of communication. The sustainable development of the two towns is purely attributable to watchmaking.

The originality of the construction of the two towns is entirely linked to their watchmaking vocation, and they only exist by virtue of this vocation. As early as the 18th century, there was a division of tasks between a large number of specialist craftsman in place, in order to produce the great variety of parts necessary for watchmaking. The towns of La Chaux-de-Fonds and Le Locle are the concrete urban, architectural, and social expression of this fact, initially empirically and then as a result of following urban planning and a systematic building typology from the start of the 19th century.

Karl Marx, in his analysis of the division of labour (*Das Kapital*, 1864) takes the watchmaking industry of the Swiss Jura as a standard type, and refers to La Chaux-de-Fonds as a 'huge factory-town'.

A coherent ensemble, which has existed in a symbiotic relationship for more than two centuries, links the production requirements of watchmaking (small parts that require meticulous handling and are highly diversified) to

its implications for buildings and to an urban structure which are both fully adapted to the productive system of watchmaking. This set of buildings and urban ensemble then turned out to be the ideal support for a socio-economic organisation and its sustainable development.

The productive necessities of a very high degree of division of labour between many actors – craftsmen and skilled workers – have led to a coherent and stable building typology, always based on a relatively narrow rectangular plan, oriented towards the light. This makes it possible to have rooms and/or workshops that are generously illuminated by a large number of rectangular bays packed closely together, which are characteristic of the workplaces. This results in facades which are typical and characteristic of the various types of housing

*Artisanal housing*, from the end of the 18th century, integrates the concept of home working (cottage industry), i.e. work previously carried out in the countryside is now done inside the urban watchmaking house. This individualised work is made possible by the small size of the mechanical parts and the limited need for power, and by a high level of expertise and traditions of apprenticeship. A working room is given over to work, close to one or two well exposed windows. It then becomes a building with one storey dedicated to the workshop, either the ground floor or the attic, resulting in a characteristic superabundance of windows relative to the number of storeys in the housing.

The *mixed building or small factory*, derived from the previous type but adapted to the necessities of mechanisation at the end of the 19th century. A workshop is attached to the dwelling, and is again distinguished by the almost continuous openings in its facades. It is also highly suitable for the work of the *establisser* in charge of the final assembly.

The *factory* corresponds to the appearance after 1880 of more detached works that were larger than the traditional *establisserie*. However, the factory did not replace this system, and a large number of suppliers were retained in the traditional watchmaking system. The factory was a concrete expression of the quantitative increase in output and the affirmation of a watchmaking bourgeoisie. The owner's residence may be attached to the factory, forming an architectural ensemble, or may be separate. The standard type of the narrow rectangular plan, generously provided with windows, still remained, obeying the same functional requirements.

The *workers' huts* repeat, from the second half of the 19th century onwards, the basic typology of watchmaking buildings, dedicated both to work and to housing, but now on a larger scale and on a rental basis. Such communal housing is at the same time an important model foreshadowing collective worker housing and an early example of social hygienics, with living districts which, despite their name, are of good quality – well lit, ventilated, and acceptably heated, particularly as a result of the necessities of watchmaking work, which is meticulous and requires the worker to be seated.

The *specific watchmaking urban model* of La Chaux-de-Fonds and Le Locle emerged in two stages. The first, in the 18th century, consisted of the nucleation of two nearby urban ensembles, the location and success of which were exclusively linked to the need to group together watchmaking workers, who until then had formed part of a

diffuse domestic system established in the mountains. The two sites are inhospitable because of their altitude, and unsuitable for agriculture, but they have small valleys which are well oriented for exposure to the sun, and regular and reasonable slopes. It should be noted that the almost permanent presence of snow on the ground for around five winter months is an important factor in improving the lighting conditions.

The aim was a more developed professionalisation and specialisation and the creation of urban synergies to facilitate the continuous exchanges of parts as part of the chain of manufacture (the parts), mechanical assembly (the basic movements), and finishing (the cased and completed watch).

The second stage of urbanisation, triggered partly by the occurrence of fires in the early 19th century (see History), was the transition from an initial exploratory urbanism to rational and systematic planning as determined by watchmaking necessities. An original urban model was put in place, in profound symbiosis with the architectural typology of the buildings. This is strip urbanism, starting out from the main well oriented axis at the bottom of the valley, respecting several cardinal principles – parcels of land in narrow parallel strips, regularly rising in stages on the sides of the valley; street widths favouring both tangible exchanges and natural lighting; a repeated ternary rhythm of street, garden, and building; functional orthogonality of the street system.

Watchmaking urbanisation defined in this way is, moreover, designed as an open and cumulative system that favours the extension of productions (and thus of the town), made possible by a geographical location in a spacious natural environment, which is preserved but not particularly sought after.

This urban grammar has turned out to be fully adaptable to the socio-technical transformations of the watchmaking industry (see History), and has generated a stable and sustainable social system. When the watchmaking bourgeoisie flourishes and simultaneously develops mechanisation and more integrated manufacturing, the town planning is perfectly adapted to this tendency: the factory finds its place in the parcel system, as does bourgeois housing; the ceaseless part-exchange synergies continue in a socio-technical model which has been renewed but which is not fundamentally different. There were once up to 2000 watchmaking companies in the urban space of the two towns, and there are still 600 today.

The great majority of watchmaking workers have formed – over a long historical period and still today – a middle class with a relatively high standard of living. This is reflected in a strong sense both of belonging to the town and of professional identity, and in the excellent quality of the built structure and its conservation in the two towns. This has always been reflected in the ways premises have had their use changed from housing to workshop or *vice versa*; indeed, this has permitted the rapid and efficient conversion of buildings following the crisis of the 1970s, without giving rise to the often traumatic phenomenon of industrial wastelands.

The nomination dossier provides an exhaustive description of the districts of La Chaux-de-Fonds and Le Locle, setting out in detail their particularities with regard to general architectural and urban typologies.

The buffer zones of the two towns are contiguous; they are defined by the visual limit of the crest lines around the valley. They consist of the immediate urban environment of the property in the continuity of its street system, and of the rural parcels of land allocated to pasture and forest. They in fact form a single, continuous, and homogeneous buffer zone, including the high valley of the Jura around the two towns.

ICOMOS considers that a coherent and comprehensive typology of the buildings and urban development of the two towns, in their symbiosis with the development of watchmaking, has been established by the dossier and by the answer given by the State Party on 26 February 2009.

### *History and development*

Human settlement of the high Jura plateau was relatively late. The name of Le Locle, a small mountain village, does not appear until the Late Middle Ages, and that of the hamlet of La Chaux-de-Fonds not until even later. However, the two autonomous rural communities existed by the mid-17th century.

The birth of watchmaking at Le Locle is attributed to the semi-legendary figure of Daniel Jean-Richard, at the end of the 17th century, and then subsequently to other remarkable entrepreneurs of the 18th century. Technical watchmaking activity was then divided between rural workers, who were increasingly numerous, specialising in the making of a particular part. The parts were then brought together by the *establisser*, who issued the orders. He assembled the basic movement of the watch in his own workshop in the village and finished it off, or if not sold the basic movement to a watchmaker from Geneva or Paris. Many craft specialities were necessary, but the division of labour meant that this was manageable and that the necessary labour force could be trained relatively rapidly.

In the 18th century, the Upper Jura farm was well adapted to this type of activity, which required a room, light, and the time made available by the long winter months.

The *establisserie* system at that time tended to be concentrated in the towns of Le Locle and La Chaux-de-Fonds, which were close to each other, and to become professionalised to meet the growing demand for watches. The town house permanently dedicated to watchmaking then took over from the farm. With two or three storeys and with an architecture that was sober and functional, a house of this type would accommodate several families of worker-craftsmen and their workshop rooms. This evolved into the vast colonies of rented accommodation in the second half of the 19th century. In 1870 some 90% of the Swiss watchmaking labour force consisted of home workers.

The fire of 1794 at La Chaux-de-Fonds and the fires at Le Locle in 1833 and 1844 made it possible to redesign the plans of these two watchmaking mountain towns in a more rational way, in order to make them into towns entirely dedicated to the development of watchmaking (see Description). The names of Moïse Perret-Gentil and in particular of the engineer Charles-Henri Junod are associated with these projects.

The urban population grew steadily from 1750 to 1830; there was then a considerable acceleration in urbanisation,

particularly at La Chaux-de-Fonds between 1830 and World War I. The population of La Chaux-de-Fonds was then around 40,000 and that of Le Locle 13,000.

The Industrial Revolution led to the building of a railway line between the two towns, in 1857, which was extended to Neuchâtel shortly afterwards. It fitted in well with the strip-based urban fabric. In addition to its transport function, the railway helped to strengthen earlier urban options and to encourage development along the axis of the valley. The town plans were extended, reinforced by the construction of a water supply system and a sewerage system; hygienic concerns were given priority.

During the second part of the 19th century the watchmakers had to cope with various market pressures: an increase in output, the growing need for quality at a lower cost, and the shock of American competition based on another manufacturing business model. The Universal Exposition at Philadelphia in 1876 revealed the capacities of the new model. The production of fully interchangeable standardised parts, using sophisticated machine tools, provided an effective response to the new needs of the markets.

The watchmaking industry of the Neuchâtel mountains was the first in Europe to adapt to this competition. This led to the creation of integrated factories, or larger workshops in annexes to houses, but still in the pre-existing grid of streets. Not only did the Swiss watchmaking industry maintain its previous positions, it strengthened them, again dominating the world watch market.

The crisis of the 1930s left its mark on the region; the Swiss watchmaking industry coped thanks to a system of cartelisation under public control. Negative population growth occurred for the first time in the inter-war years, particularly at La Chaux-de-Fonds. There was then a substantial increase during the thirty years of post-war prosperity (1945–75), exceeding the previous record population levels of the early 20th century.

Another brutal change in the industrial system occurred in the 1970s, with the sudden arrival of quartz crystal and electronic techniques from foreign countries. This led to another drastic and rapid conversion of the manufacturing system, which after some difficult years again raised Swiss watchmaking to the position of unrivalled market leader. The number of watchmaking concerns is declining and populations are decreasing, but without a serious and irreversible crisis, as happens all too often in the industrial world.

### *La Chaux-de-Fonds/Le Locle, Watchmaking town planning values*

The Upper Jura towns of La Chaux-de-Fonds and Le Locle illustrate more than two years of coherent urban planning, specifically dedicated to the flowering of a single industry: watchmaking. This is a process that has taken place over a long time span and is linked to a cultural tradition.

The two urban and architectural ensembles are remarkably well adapted to the social, technical, and productive needs of this industry, forming two ‘factory-towns.’ They embody a sober and functional buildings typology, with a profound relationship to light and an ordered and open strip-based urban structure.

The two towns illustrate the beginnings and then the development of industrial watchmaking in Europe and its

adaptation to two major crises involving a change in the socio-technical production system.

This is a living heritage which today continues the tradition of watchmaking at a level of quality that is internationally recognised.

### 3. OUTSTANDING UNIVERSAL VALUE, INTEGRITY, AND AUTHENTICITY

#### *Integrity and authenticity*

##### *Integrity*

The integrity of the watchmaking vocation of the two towns of La Chaux-de-Fonds and Le Locle is total, and has remained so for more than two centuries; furthermore, this vocation is still active. It is given concrete expression in the permanence of the ordered and cumulative street plans of the first half of the 19th century and the continuity of the basic architectonic motifs of the built structure, based on a comprehensive typology from the end of the 18th century until today.

The State Party proposes an 'integrity index' for the built structure based on the percentage of pre-1930 buildings which have not been substantially altered; the figure is 87% at La Chaux-de-Fonds and 88.5% at Le Locle. In the former case, the new built-up area is concentrated near Avenue Léopold-Robert and in the railway station district; in the latter it is more widely scattered.

##### *Authenticity*

The typological and environmental study of post-1930 buildings shows some important disruptions (high buildings) but above all functional and architectural continuity (factories of the 1960s, workers' housing estates) with the earlier built structure.

The State Party proposes a statistical and cartographic approach to these questions based on the morphology and typology of the constructions. The factors considered include spatial structure, location, volume, composition of facade, built structure plan, décor, and details. Some 85% of the public and private buildings of the two towns are judged to be exceptionally well or well integrated in their environment from the authenticity point of view, whilst the others are considered to be disruptive. Their geographical dissemination is relatively uniform, but large zones, and sometimes whole districts, appear to be completely authentic in terms of the criteria proposed.

ICOMOS stresses the high quality of the work done by the State Party and the usefulness of the numerical indexes based on precise data in the evaluation of the integrity and authenticity of an urban ensemble.

ICOMOS considers that the conditions of integrity and authenticity have been met.
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#### *Comparative analysis*

The State Party has carried out a comparative analysis of the property 'La Chaux-de-Fonds/Le Locle, Watchmaking town planning' by focusing in particular on the following criteria: the scale of the planning, the predominant characteristic of a mono-industry, its influence on urban

and building choices, the role of cultural traditions in the town planning, and the testimony to the industrial era.

The historic approach shows that projects for towns with a grid plan are relatively numerous during the period when those of La Chaux-de-Fonds and Le Locle were drawn up: colonial towns, American towns, town reconstruction plans or new districts in Europe, and projects for factory towns. It is possible that these examples may have had an influence on the town planners of the Jura (several examples in Europe from the 16th to the 18th century, the urban plan of New York in 1824). It is also possible that ideal town projects in Switzerland itself may have influenced the plans of La Chaux-de-Fonds and Le Locle (Henripolis, Le Versoix).

La Chaux-de-Fonds and Le Locle are not new towns, but have some similarities to new towns as they were largely rebuilt following fires, and in that respect there was a long-term vision of their development. Glaris, in Switzerland, is a similar example.

To consider the example of Swiss industrial towns, several are dedicated to textiles, but none of them has a concerted development of town planning, housing, and places of production. The industry has tended to be located on dedicated sites, away from any dense urban built-up area, or been added on to existing towns but without any major planning impact. These are the dominant cases in Switzerland and elsewhere.

The factory-town is a concept of the Enlightenment, embodied, for example, by Krefeld and Erlangen in Germany, Bois-le-Duc in The Netherlands and Le Grand-Hornu in Belgium.

As for the mono-industrial aspect, the other watchmaking towns or cities did not have an overall town plan: for example, Besançon, Morteau, and Maiche in France, Waltham and Elgin in the United States (and Solingen for cutlery in Germany). It is perhaps the jewellers' district of Birmingham that bears most similarities to La Chaux-de-Fonds and Le Locle, but it is less rational and systematic in its planning.

Hygienics and social reform also left their mark on the construction of workers' housing estates and whole districts of workers' housing, in Brussels, Berlin, Hamburg, and Mulhouse. However, the urban standards applied did not incorporate professional and production requirements.

There are workers' colonies whose plans resemble those of La Chaux-de-Fonds and Le Locle, particularly in the Ruhr, but they are of a later date.

Through their concept of maximum opening up to the light, the plans of La Chaux-de-Fonds and Le Locle can be seen as foreshadowing the scientific town planning of the late 19th century. The same applies to the principle of open planning, with strips of buildings, as opposed to the principle of blocks of buildings. This was to be one of the principles of the modern town planning of the 20th century, as for example in Germany at Reutlingen and Munich.

La Chaux-de-Fonds and Le Locle are presented as unique examples of a profound synergy between town planning, housing, and the requirements of mono-industrial development, in this case that of watchmaking.

ICOMOS considers that the architectural motif of the workshop window and its integration in urban housing planning could have been considered in a comparative study. It is frequently encountered in many urban examples, but without assuming the omnipresent morphological dimension on a large scale that it takes on at La Chaux-de-Fonds and Le Locle.

ICOMOS considers that La Chaux-de-Fonds and Le Locle form a rare example of twin ‘factory-towns’ dedicated to the mono-industry of watchmaking. They are remarkable, first, in their long-term symbiotic relationship between the professional necessities of watchmaking and the development of their town plan and architecture and, secondly, in the permanent and lasting integration of premises for living and premises for working. In this regard they differ from the classical single-industry towns of the 19th and 20th centuries, and from workers’ colonies and housing estates, forming an urban, professional, and social model with original characteristics. If it is also considered that these are mountain towns that have always been dedicated to watchmaking, and that their state of integrity is good, they bear an important and indeed relatively rare witness to a form of sustainable urban, industrial, and social development.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

#### ***Justification of the Outstanding Universal Value***

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- La Chaux-de-Fonds and Le Locle are true factory towns built for and by the watchmaking industry, following a cultural tradition rooted in the rural and craft world of the mountains of Neuchâtel.
- The two towns bear exceptional witness over a long time span to the industrialisation movement in Europe from the Enlightenment to the present day.
- The two towns embody urban planning and architectural traditions that stem from an intimate symbiosis between social, technical, and industrial needs. Residential buildings designed for home working are located amongst company owners’ houses and more recent factories, within a homogeneous urban fabric.
- The town planning has been developed on the basis of a rational model of long parallel strips and streets at right-angles, while being adapted to suit the geographical and climatic criteria of a mountain valley in the Jura. The urban planning and architecture are conducive to the exchange of materials and the lighting of workrooms and factories.
- The town plans are rational, pragmatic, and open, so as to permit a sustainable extension of the town in keeping with its watchmaking vocation. Continuing since the beginning of the 19th century, they have today resulted in two urban landscapes that are emblematic of the factory-town.

- The efficiency of the socio-technical craft and industrial system of the two towns enabled the watchmaking industry of the Neuchâtel mountains to cope with the technical and scientific crises of the late 19th century and the 1960s. The crises led to profound changes in professions and techniques on two occasions. The continuing existence of the urban ensemble and its homogeneity bear witness to this, in an environment that has remained exclusively rural and forested.

#### ***Criteria under which inscription is proposed***

The property is nominated on the basis of cultural criteria (ii), (iii), (iv), and (vi).

*Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design*

This criterion is justified by the State Party on the grounds that the urban planning and architecture of the two towns of La Chaux-de-Fonds and Le Locle have been shaped by the requirements of the watchmaking industry, in order to encourage its sustainable development. The two watchmaking towns have remained in a pastoral and forested environment typical of the region, giving rise to an urban mountain landscape that is in keeping with its rural origins.

ICOMOS considers that in terms of urban planning and construction typology the link and the symbiosis with the development of the watchmaking industry have been adequately established, but that this aspect is primarily connected with criterion (iv). Furthermore, the interchanges of human values both received and given in the constitution of the urban ensembles and the architectural typology are probable, but they remain diffuse, of limited scope and inadequately identified. They are not of outstanding universal value.

ICOMOS considers that this criterion has not been justified.

*Criterion (iii): bear a unique testimony to a cultural tradition or to a civilization which is living or which has disappeared.*

This criterion is justified by the State Party on the grounds that the towns of La Chaux-de-Fonds and Le Locle bear exceptional testimony over a long time span to the different phases of development of industrial processes and the renewal of its socio-technical basis. The towns are claimed to be the product of a cultural tradition born in the 18th century, itself rooted in an even older history of peasant workers. This tradition went on to find its expression in watchmaking craftsmanship within a manufacturing system, and then in several successive dimensions of mechanisation of production and the industrial factory. This tradition expresses values of technical innovation, urban creativity, and humanism.

ICOMOS considers that the cultural tradition referred to by the State Party is presented as an illustration of the various stages leading to industrial society. The watchmaking history of the Jura area as a whole certainly testifies to this and in an exemplary fashion, but the property as architectural and urban testimony of this tradition is not considered to be unique or to demonstrate outstanding universal value.

ICOMOS considers that this criterion has not been justified.

*Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history.*

This criterion is justified by the State Party on the grounds that the two towns constitute a remarkable example of architectural and urban ensembles in which watch production and housing space are intimately combined. It is particularly well expressed by the typology of buildings, in which the worker's residence is associated with the workshop, and by the organisation of the urban space in which factories, residential buildings, and owners' residences are intermingled, while at the same time respecting the same urban logic. The watchmaking town is thus designed as a coherent and rational ensemble, in the perspective of promoting the long-term development of its mono-industry, in a way similar to the concept of the 'factory-town.'

ICOMOS considers that the location of the two towns, the way their structure has been established in rational and open urban systems, and the constructive typology, are totally in symbiosis with the needs and development of twin towns that are entirely dedicated to the watchmaking industry, from the 18th century to the present day. They constitute two eminent and exceptional examples of mono-industrial 'factory-towns' which are well preserved and still active.

ICOMOS considers that this criterion has been justified.

*Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.*

This criterion is justified by the State Party on the grounds that the two towns bear witness to the uninterrupted continuation of a living tradition of world-renowned watchmaking, from earlier 18th century practices down to the present day. It is representative of a technological and economic culture of high quality and innovation. The continuing existence of these traditions is ensured by the transmission of expertise and knowhow which has been adapted to successive periods, from traditional apprenticeship to modern technical schools, and by a productive system which has always been dispersed among a range of independent and autonomous actors, in a climate of social harmony. This gives rise to a legitimate but discreet pride in a collective achievement over a long time span.

ICOMOS considers that the arguments advanced are perfectly sound in historical terms, but the direct link with the architectural and urban evidence is not very perceptible.

ICOMOS considers that this criterion has not been justified.

ICOMOS considers that the nominated property meets criterion (iv) and that the Outstanding Universal Value has been demonstrated.

#### 4. FACTORS AFFECTING THE PROPERTY

The proximity of the two towns of La Chaux-de-Fonds and Le Locle and their historical and urban similarities mean that their situations are identical with regard to factors affecting the property.

##### *Development pressures*

Urban development pressure, strong until World War I, declined significantly afterwards, particularly with regard to related issues of land, real estate, and finance. Factories and apartment buildings were erected in the period 1950–70, but without altering (or altering only slightly) the initial urban fabric. The stabilisation or decline in the urban populations recorded since 1970 also limits development pressure.

The main pressure comes from the need to build private garages in gardens. Furthermore, various urbanisation plans and programmes apply to the property and its buffer zone:

- inside the property, the *Special Le Corbusier Plan* at La Chaux-de-Fonds, for the development of the former railway goods station. Although this programme is resolutely contemporary, it seems that it will comply with the fundamental values of watchmaking urban planning;
- in the buffer zone, the *Crêt-du-Locele* economic and industrial project for the Canton;
- in the buffer zone, at *Col-des-Roches*, a project for a sustainable town and new public spaces (European 9 competition).

Following the ICOMOS request, the State Party provided details of these three projects, and their planning and architectural control inside the property and the buffer zone in its letter dated 26 February 2009.

##### *Tourism pressures*

Tourism is a secondary activity. Focused on green tourism in the environs of the towns, it has over the last few years changed direction, with greater emphasis on the urban and industrial heritage.

##### *Environmental pressures and impact of climate change*

There is no source of industrial pollution in the property or in its buffer zone.

Climate change should not have any impact on the habitability of the Neuchâtel mountains, or on its conditions with regard to conservation.

##### *Natural disasters*

The seismic risk is considered to be low.

In view of the nature of the ground, the local geography, and the hydrological system, the risk of a major flood is considered to be virtually non-existent at La Chaux-de-Fonds (no known flooding has ever occurred). There is, however, a danger at Le Locle where the River Bied seriously flooded the marshy floor of the valley and the town centre in 1896. Substantial works to modify the course of the river bed and the sewerage system were then carried out (1898–1919). Since then the risk of flooding has been considered to be significantly lower at Le Locle, and restricted to a limited zone of the property. The change

to the level of the water table that resulted from the works has affected the foundations of some old buildings whose foundations consist of fir wood stakes. Those most severely affected of these have been demolished, and the most sensitive buildings have been underpinned and consolidated. The phenomenon is today well under control, and the situation has been stabilised for several years now.

The risk of a major fire is now low, unlike the situation that existed in earlier times.

There is a risk, which is considered to be very low, of a landslide in certain parts of the south slope of the valley at Le Locle.

ICOMOS considers that the main threats to the property consist of the building of private garages in gardens.

## 5. PROTECTION, CONSERVATION, AND MANAGEMENT

### *Boundaries of the nominated property and buffer zone*

The boundaries of the property have been based on detailed studies of the pre-1930 housing and a significant presence of such housing from the viewpoint of the expression of its value. The boundaries encompass the centres of the two towns and the various districts of housing and watchmaking activities (see Description). The more recent peripheral urban zones are in the buffer zone.

*La Chaux-de-Fonds:* The nominated property has an area of 213.7ha, it includes 2290 buildings, and its population is 17,483.

*Le Locle:* The nominated property has an area of 70.2ha, it includes 667 buildings, and its population is 4324.

The *buffer zone* of the two towns has an area of 4487.7ha and its population is 25,300.

ICOMOS considers that the State Party has made coherent and precise choices in defining the components of the property and its boundaries.

ICOMOS considers that the boundaries of the nominated property and buffer zone are adequate.

### *Ownership*

Most of the real-estate elements of the property are divided between a large number of private owners, who on average own no more than one or two buildings each, together with a still significant number of watchmaking companies which are still operating.

A process of information, dialogue, and public enquiry made it possible for the private owners to be involved in the nomination dossier project, and then in Municipal and Cantonal decisions. This process did not give rise to any sign of rejection on the part of the inhabitants. The State Party has referred to a spirit of general consensus on the part of owners and inhabitants with regard to the initiative of the two urban areas to apply for inscription on the World Heritage List.

## **Protection**

### *Legal protection*

At *State Party* level: The Federal Inventory of Sites of National Importance was applied to La Chaux-de-Fonds and Le Locle in 1984, and revised in 2007. Implementation of any recommendations by the Inventory is, however, the responsibility of the Cantons and Communes.

The Federal Constitution has delegated substantial responsibilities to the Cantons with regard to land use and heritage protection (Art. 78), and the same is true of the Federal Law on the Protection of Nature and Landscapes.

At *Neuchâtel Canton* level: the following laws apply to the protection of the property:

- the Cantonal Law on the Protection of Cultural Properties,
- the Cantonal Law on Land Use,
- the Cantonal Law on Buildings.

They are accompanied by implementation regulations.

Their application has led to the scheduling of 35 buildings considered to be individually remarkable at La Chaux-de-Fonds and 19 at Le Locle, inside the boundaries of the nominated property. Furthermore, the concept of an ensemble, referring to districts or certain zones of properties, has been clearly constituted.

In terms of heritage and landscape protection and conservation, the Federal and Cantonal authorities are mainly concerned with advice and control. It is in fact at *Communal* level that the main legal measures are to be found, and the practical decisions concerning the protection and safeguard of the urban, architectural, and watchmaking heritage. The measures comprise:

- the Communal Development Plan and Regulations of the Town of La Chaux-de-Fonds;
- the Development Regulations of the Commune of Le Locle.

These documents define a plan of the urban site and include an inventory which individually lists all private and public buildings. Each has an individual data sheet and a score ranging from 1 to 9, based on the application of a set of heritage criteria. The scale is simplified into three final categories of buildings: remarkable, well integrated, and disruptive (see Integrity–Authenticity). The plans and regulations indicate in detail the recommendations to be followed for urban planning, maintenance, alteration, and renovation of buildings according to their ranking and possible conditions of reconstruction.

Buffer zone:

The Communal plans and regulations are used for urban and real-estate management independently of the nominated property, with rules relating to alteration and construction (building permits). They apply to the urban parts of the buffer zone. They strictly define the plots that are available for urban development, in accordance with the historic planning approach of the two towns. All the other areas in the buffer zone are designated for agriculture, where only agricultural buildings can be authorised, and for protected natural zones such as forests.

### *Traditional protection*

The urban fabric was devised in the 19th century to be open-ended and conducive to the harmonious extension of both towns, and it is still operative. Development zones which express continuity with the street system and the constructive principles of the property are projected: Le Crêt-du-Loche and Le Col-des-Roches in particular.

### *Effectiveness of protection measures*

In view of the main threat of urban pressure, applications for the building of private garages in gardens are subject to a building permit. Solutions involving a collective garage that is buried or semi-buried, with roof gardens, are favoured. Authorisation is also required for tree felling.

ICOMOS considers that the legal protection in place is adequate.

## **Conservation**

### *Inventories, recording, research*

The Federal inventory of built sites to be protected was carried out in 1976 for La Chaux-de-Fonds and in 1977 for Le Locle. They were updated in 2008.

The two Communes and their technical urban planning departments have carried out a thorough survey and a detailed inventory, house by house, of the property. They have access to the towns' urban planning and building archives.

The Communal and Cantonal archives departments have archive records related to the property.

The watchmaking museums of La Chaux-de-Fonds and Le Locle have large collections and libraries relating to watchmaking history. The Communal History Museum of La Chaux-de-Fonds has iconographic collections.

For the purposes of the nomination dossier the municipal departments and the members of the Steering Committee carried out wide-ranging research into the definition of the property and its urban and architectural values. This effort will be continued by the Coordination Committee which has taken over from the Steering Committee.

The University of Neuchâtel, in conjunction with the museographic institutions (*Institut l'Homme et le Temps*) has for several years now been carrying out internationally recognised work on the history of watchmaking.

### *Present state of conservation*

Four levels have been defined for state of conservation in the municipal surveys carried out on a house-by-house basis. The results for the two Communes are:

1. *good*, no works need to be planned: 88–89%;
2. *average*, works needed in 15 years: 9–10%;
3. *satisfactory*, works needed in less than 15 years: 1.5%;
4. *poor*, works needed in 5–10 years: under 0.5%.

In other words, out of a built structure totalling more than 3000 buildings that make up the nominated property, only ten to twelve buildings require works over the next five years, and two or three raise a specific problem of

restoration or inappropriate location, while one small structure must be demolished.

### *Active conservation measures*

These consist essentially of the active policies of the two towns to conserve the urban fabric and encourage the maintenance and conservation of buildings by private owners. Management measures consist on the one hand of plans and regulations that cover and govern all operations affecting the urban fabric of the property and its buffer zone, and on the other hand of the management plan for the nominated property, which is essentially a conservation management plan.

### *Maintenance*

The watchmaking crisis of the 1970s effectively froze the property stock as it was at the time, contributing to its conservation and to its later reuse without major alterations. The trend of converting workshops into lofts has preserved exterior architectural appearances.

Several watchmaking brands are today eager to present an image which draws on the industry's history and heritage, and this conducive to a good level of maintenance and respect for the heritage.

### *Effectiveness of conservation measures*

Over the last thirty years or so, there has been a sharp increase in the collective awareness of the heritage value of the urban fabric and its architecture, which has supported administrative and legal provisions for the protection of the property. This awareness makes the application of the provisions more legitimate and more effective. This also applies to the collective awareness of a privileged and outstanding relationship between the urban fabric and its pastoral and forested environment.

The conservation of the heritage of the urban fabric and of the buildings does not usually raise any technical problems, and does not generate any significant additional cost.

ICOMOS considers that the state of conservation of the property is highly satisfactory.

## **Management**

### *Management structures and processes, including traditional management processes*

The day-to-day management process is carried out by the Communes and their urban planning and heritage departments. They resolve issues in advance by informing and raising the awareness of owners about the values of the property and about good conservation practices. They manage the dossiers relating to the conservation, restoration, and in some cases the reconstruction or construction of buildings. The administration is easily accessible and can rapidly provide regulatory or technical information relating directly to the situations in hand. The Communes can also distribute incentive aid while ensuring compliance with specific attribution conditions. At a later stage in the process, they exercise control and where necessary have the right to take action if recommendations to private owners are not followed, or if private owners fail to meet their commitments.



The process of concertation between the three public entities concerned, the Communes of La Chaux-de-Fonds and Le Locle and the Canton of Neuchâtel, is already long-established. Concertation between the two towns takes place via the Intercommunal Commission.

The Steering Committee for the nomination dossier became the Permanent Coordination Committee for the sites in March 2008. Its role is to designate a 'site manager' and set up various working groups. It is supported by a Multi-disciplinary Group whose role is to provide scientific and professional advice.

In its reply of 26 February 2009, the State Party supplied the management plan adopted from February 2009 onwards, and details about the setting up and actual functioning of the Permanent Coordination Committee.

ICOMOS notes the efficiency of the urban management already in place, and recommends that this should continue.

*Policy framework: management plans and arrangements, including visitor management and presentation*

The Management Plan sets out a general methodology for the analysis of the property and its long-term conservation, and for the study and expression of its value. Its purpose is to guide and influence public and private decisions in seven directions: harmonisation and adaptation of the legal and regulatory system; financial resources for conservation; awareness raising efforts; encouraging better knowledge; mobilising available skills; organising the administrative apparatus; and finally resources and technical organisation. The timetable is divided into four phases: actions in progress (2008), planned actions (2009), medium-term actions (2009–12), and long-term actions (after 2012).

The Management Plan for the property continues and codifies the conservation actions already in place, and is integrated into the main general plans and programmes which currently cover the property:

- the Land Use Master Plan of the Canton of Neuchâtel;
- the Communal Development Plan and Regulations of the Town of La Chaux-de-Fonds;
- the Development Regulations of the Commune of Le Locle.

With a view to preserving and more closely monitoring the property in the event of inscription on the World Heritage List, specific measures to strengthen the requirements of the cantonal and local documents are currently being taken.

*Risk preparedness*

Risks have been analysed rationally and systematically by the relevant Federal, Cantonal, and Municipal departments. The emergency intervention plans and civil security systems in place seem to be satisfactory.

*Involvement of the local communities*

The nomination was initiated by the local authorities. The inhabitants have been kept well informed and consulted throughout the process, in a spirit of open dialogue, reflecting the tradition of local democracy that is held in high regard in Switzerland. There is a high degree of

awareness of the values of the property and a strong sense of individual responsibility for its maintenance.

*Resources, including staffing levels, expertise, and training*

Urban maintenance and the conservation of public buildings are carried out using municipal budgets.

For reasons of heritage conservation, owners of protected buildings can obtain financial aid for projects from the Federal and Cantonal authorities, but this relates to only a minority of buildings. The restoration of serial elements forming part of urban ensembles may be eligible for public aid in addition to that available for recognised monuments.

Most of the financial effort is borne by the owners, but usually without any significant extra cost because of the definition of the property and its value. If specific situations arise, public aid may be requested, together with the intervention of a private foundation dedicated to the conservation of the watchmaking heritage.

In order to process dossiers submitted by private individuals and to carry out the monitoring of urban elements and built structures, the two towns have urban planning commissions and urban planning departments comprising in all 2 communal chief architects, one heritage architect, one urban planner, one geographer, 2 civil engineers, 5 architectural technicians, and 4 administrative staff.

Furthermore, the Cantonal Monument and Site Protection Office has qualified personnel, and in particular a Cantonal Curator, who is an architect and architectural historian, along with 2 architects, 2 archaeologists, and three historians.

*Effectiveness of current management*

The systems used for management by the Communes and all the measures making up the Management Plan are effective. The only aspect requiring confirmation is the Coordination Committee, its setting up, its composition and its prerogatives.

ICOMOS considers that the management system for the property is adequate.

## 6. MONITORING

Through the various existing inventories and management procedures put in place, the Federal and Communal departments have a good vision of the property and its component parts in relatively great detail.

The various inventory procedures are based on monitoring indicators, including in particular:

- the ISOS federal procedure for monitoring built sites (20 years);
- the site plan and its descriptive data sheets (15 years);
- the inventory of the state of the buildings, drawn up in 2007 (6 years);
- the thematic inventories –e.g. staircases, stained-glass windows (10 years)
- the inventory of nature in the town (15 years);
- the archives of the construction police (permanent);

- the iconographic archives (permanent).

ICOMOS considers that the monitoring is satisfactory.
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## 7. CONCLUSIONS

ICOMOS recognises the outstanding universal value of the group of buildings formed by La Chaux-de-Fonds and Le Locle.

### *Recommendations with respect to inscription*

ICOMOS recommends that La Chaux-de-Fonds/Le Locle, Watchmaking town planning, Switzerland, be inscribed on the World Heritage List on the basis of **critterion (iv)**.

### *Recommended Statement of Outstanding Universal Value*

The watchmaking urban ensemble of La Chaux-de-Fonds and Le Locle demonstrates outstanding universal value:

- These twin factory-towns constitute an exceptional example of urban ensembles entirely dedicated to a single industry. They have been constructed by and for watchmaking. They are the product of an extremely close symbiosis between socio-technical needs and responses provided by town planning choices.
- Watchmaking has given rise to a remarkable architectural typology in the built structure. Housing designed for home working is situated alongside owners' houses, workshops, and more recent factories, in a homogeneous and rational urban fabric that is open to the outside.
- The two towns bear witness to the exceptional uninterrupted continuation of a living and world-renowned watchmaking tradition, which has succeeded in coping with the socio-technical and economic crises of the contemporary world

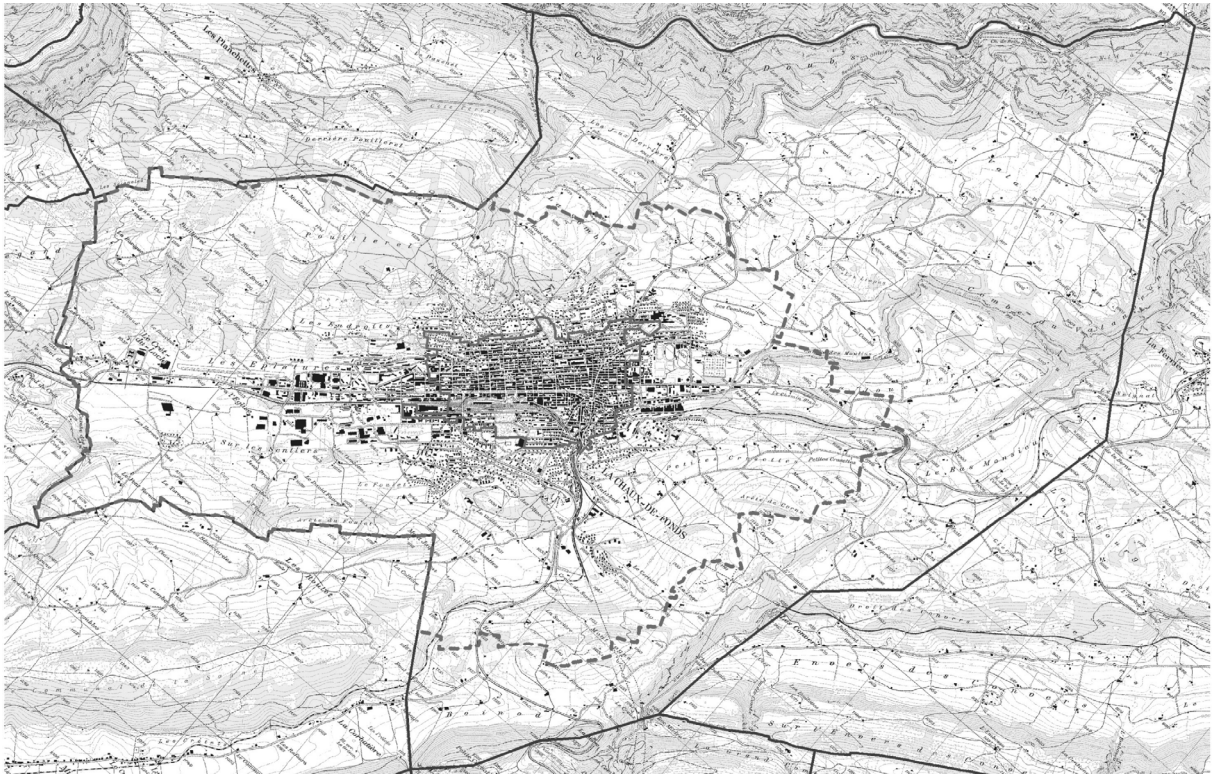
**Criterion (iv):** La Chaux-de-Fonds and Le Locle constitute a unique urban and architectural ensemble, wholly dedicated to watchmaking from the 18th century until the present day. Watchmaking space and living space co-exist in an extremely close relationship. The rational, pragmatic, and open planning of the urban space has encouraged the sustainable development of this mono-industry, as a 'factory town.'

The authenticity and integrity of the property are satisfactory.

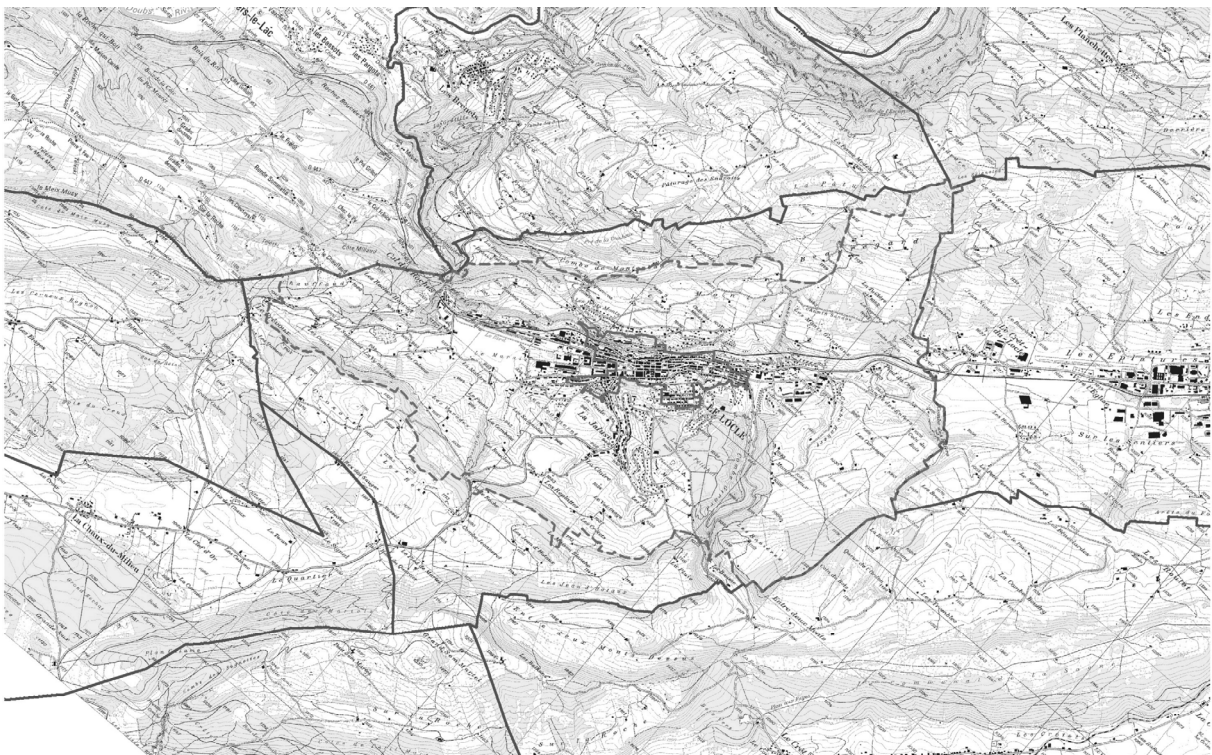
The level of protection and the proposed management plan are satisfactory.

ICOMOS recommends that the State Party give consideration to the following point:

- Careful monitoring of the construction of private garages in gardens inside the property.



**Map showing the boundaries of La Chaux-de-Fonds**



**Map showing the boundaries of Le Locle**



**Aerial view of Le Locle with La Chaux-de-Fonds in the background**



**Manor, 1907 – Le Locle**



**La Chaux-de-Fonds – Town Hall street**



**Working class housing, mid 19<sup>th</sup> century - La Chaux-de-Fonds**