ITALY CASE STUDY REPORT 2: INDUSTRIAL HERITAGE

‘LA GOCCIA’ IN BOVISA, MILAN

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0. Introduction

This report focuses on the area Gasometri or Goccia, in the north-western Milan borough of Bovisa. An industrial area of regional and national importance through the XXth century, which in particular centralised gasworks of the Milan area, its plants progressively shut down until the complete closure of a large part of it in 1994. Meanwhile, Politecnico di Milano, a leading architecture and planning university, settled a new campus in the remaining area, introducing new uses in the former industrial buildings. This research explores the role played by the area’s industrial heritage, both in its planning and management and in citizens’ sense of place.

1. La Goccia - area Gasometri di Bovisa

1.1. Location of the study area and more sub-area – with location map of the city and the specific case study areas.

The area Gasometri or Goccia is a former industrial area situated in the north-western peripheral Milan borough of Bovisa, itself part of the municipio (ward) 9 along with those of Garibaldi-Isola, Istria, Dergano, Bicocca, Ca’ Granda, Niguarda, Affori, Bruzzano and Bovisasca-Comasina. Framed by the Villapizzone borough to the West and by the rest of Bovisa to the East, by the borough of Quarto Oggiaro to the North and that of Ghisolfa to the South, it covers about 850,000m², roughly divided in two parts: the southern one is now occupied mainly by the Engineering campus of Politecnico di Milano; the northern one is still dismissed and inaccessible to the public. Bovisa as a whole counts about 12,000, of which only a few dozens live in the Goccia (Cognetti, 2007a and c).

The very extension of the area and the availability of land, along with its relative accessibility by public transport (in particular local trains) are the main reason for important stakeholders’ interest. The main land owners are the Milan municipality (Comune), Politecnico itself, A2A

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1 See http://www.comune.milano.it/wps/portal/ist/it/servizi/polizialocale/Vigili_Quartiere/Zona_9 and http://www.comune.milano.it/wps/portal/ist/it/servizi/polizialocale/Vigili_Quartiere/Zona_9/Quartieri/904_Bovisa
(the second producer of energy in Italy, controlled for a quarter of its shares by the *Comune* itself) and Euromilano (a real estate development firm).

Milan is one of the richest cities in Italy, concentrating over its entire urban area a third of the national GDP; it is also one of the most densely populated, with 80% of its territory urbanised and over 9,000 inhabitants per square meter in various areas, both central and peripheral.

The process of urban saturation in dismissed industrial areas - for a total of over 10,000,000 square meters of construction between 2000 and 2010 -, as well as that of functional concentration in specific areas, seem close to an end. But while transformation of the built environment, often ‘signed’ by renowned architects and planners, has promoted regeneration, there has been little compensation for such urbanisation (Arcidiacono & Pogliani, 2011). Finally, Milan has been an ageing city, with the people over 65 exceeding 20% of its population in 2001 (Balducci, 2007; Foot, 2001); such figure has reached 25% in 2011, while people under 15 represent less than 13%.2

1.2. **History and significance for cultural heritage**

The area has played an important role in the industrial history of Milan and its hinterland, itself of great relevance for the whole country ever since the mid-XIXth century. Part of the so-called ‘industrial triangle’ it formed with Turin and Genoa, which concentrated workforce and has attracted a sustained internal migration, the Lombard capital has been a dynamic economic and productive driver (Foot, 2001).

This had a strong impact on land use, and the Milan municipality (*comune*) progressively incorporated its surrounding areas to settle plants: thus Bovisa, which at the end of the XIXth century was little more than a group of houses amidst fields taking its name from a *cascina* (farmstead), but was close to the railway connecting Milan to the North-West, was soon occupied by plants, and in particular by the centralised gasworks (*officine del gas*, appellative sometimes extended to the whole area) in 1906. Another railway was soon created, parallel to via Bovisasca, and by 1924 what is now called ‘la Goccia’ or ‘area Gasometri’ had its raindrop (*goccia*) shape designed by the surrounding tracks, while a first gasometer had been built (Aa.Vv., 1995).

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2 Data from the 2011 census, see
While the area was aggregated to the Milan comune in 1923, Bovisa was becoming a chemical-industrial hub of regional and national importance, also as part of a network including other productive areas like Sesto San Giov anni (still in the Milan area) and the Olona valley (towards Varese). In the lack of a real planning policy, warehouses (capannoni) and blocks (case di ringhiera or di ballatoio, so called because of the balustrade typically facing the inner courtyard in Milan) were progressively built upon former fields, leaving some cascine (farmsteads) of which some remain to this day (Foot, 2007).

Urban growth in Bovisa was thus linked to that of Milan in general, but also to that of the industrial plants of which some settled in the area still in the 1960s. But the general energy crisis and the beginning of the industrial decline were soon evident, and between 1974 and 1985 the amount of workers was already halved in Bovisa (Caputo & Fiorese, 1999). The transition from carbon to natural gas (methane) did not prevent the de-industrialisation of the area Gasometri, which by the beginning of the 1990s was complete (Aa.Vv., 1995). But this didn’t completely exclude rural activities, and fields were cultivated in the area still in the 1950s; as elsewhere in Italy, industrial production was related with agriculture in spatial terms and as a complementary resource for workers’ family, and it has been suggested that Bovisa definitively lost its rural dimension only with industry itself as it main function (Foot, 2007).

In the whole Milan area, the industrial decline has left around 7.5mln square meters of dismissed areas, while the contraction of employment has had a strong impact on population

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3 From skyscrapercity.com, source unknown
and dwellings in boroughs now sometimes called ‘historic’ or ‘old’ peripheries (storiche/vecchie periferie), as opposed to those developed consequently to the post-war era housing crisis (Foot, 2001). At the same time, occurred a new wave of immigration, quite different from that of the post-war era, coming from other Italian regions (Veneto, and the Mezzogiorno in general) and driven by industry itself while that initiated in the 1990s is foreign and much less homogeneous in terms of occupation. Similarly, while other Italian dialects had already encountered the Milanese in Bovisa -and other Milan boroughs-, children born to foreign parents might still use words of Milanese today, learnt at school, in some small shop or in the streets (Foot, 2007).4

Reuse operations have often implied radical physical and social change in these areas, and at least partial cancellation of industrial heritage. Thus in the Bicocca area little has been maintained, but for this cooling tower around which the new Pirelli headquarters have been raised according to architect Vittorio Gregotti’s design, and for the ‘HangarBicocca’ which has been converted into a Kunsthalle (Mocarelli, 2010). As for the area Gasometri, or more precisely its northern part, it is one of the last few industrial areas left with a consistent amount of buildings and infrastructures (Erba et al., 2000). Among them, only the two gasometers are visible both from the rest of Bovisa and from Villapizzone, and as a matter of fact constitute a landmark at least for the former district.

Similarly to the Bicocca area, which along with residential and cultural use hosts the state university Milano-Bicocca instituted in 1998, Bovisa was designated for the development of a new campus. Politecnico di Milano, the main architecture and planning school in Milan and a leading one in Italy, had been developing during the 1980s and thoroughly needed space. After years of internal debate and confrontation with the Milan comune (still the main landlord in the area), a consensus was reached in 1987 and the first facilities settled in a former warehouse of the area Gasometri in 1989 (Ballio, 2007; Caputo & Fiorese, 1999). But whilst the southern part of it was being rapidly redeveloped along with the campus itself, which reused industrial buildings, and a few other activities including the settlement in 2007 of Istituto Mario Negri, an important medical research center, plans were made for the northern one which were never approved. Eventually, in 2001 the site was classified Sito d’Interesse Nazionale by the Ministry of Environment. This implied compulsory decontamination of the soils before any development operation, but also restrained competences for such operations to the Ministry itself. Meanwhile, the whole site to the north of the growing campus within the area was enclosed in 1994.

Workers and managers have left the plants for decades now, and only a few of them still live in Bovisa, still less in the very area Gasometri. The memory of the industry and everyday life is thus fragile, and has been severed by the long-lasting closure of the northern area, whilst the settlement of the Politecnico campus has generated new uses of the southern one, including

4 The same author made a film, entitled Ringhiera. Story of a House, about the same casa di ringhiera analysed in the article, situated in piazzale Lugano, facing the ‘Bovisa-Politecnico’ train station and the Goccia. He also lives in Bovisa. Exemplifying the borough’s renewing population, he lists the foreigners who settled in the block at the end of the 1990s -also much younger on average: ‘an Argentinian woman, Englishman, a Kurd family, an Egyptian family, people from Ecuador, Cuba and Israel’.
reconverted industrial buildings. The area’s popular memory is to be found in its older residents’ mouths and homes, while some have also written books like El Mungus (a vernacular name of the Goccia itself), by former worker Giuseppe Borra (2006) or Noi viviamo in periferia by the younger Stefano Pellegrini (‘We live in the periphery’, id. & Mongelli, 2016), or have been interviewed by researchers (by profession or vocation) who then produced articles, books (in particular Caruso, 2012; Cognetti, 2007a) or films like the already cited film Ringhiera. Story of a House.

Instead, Bovisa as a whole, and as part of the northern Milan periphery, has inspired many artists, who in turn have contributed to enrich and interpret its cultural heritage (Cognetti, 2007a and c; Pellegrini & Mongelli, 2016). Among them, painter Mario Sironi, among his Paesaggi urbani (‘urban landscapes’) has produced an image of the gasometers and their gloomy industrial context that is often cited, as well as paintings and drawings by Ampelio Tettamanti; writer Giovanni Testori has translated into literature typical stories and characters, which in turn inspired Lucchino Visconti in his film Rocco e i suoi fratelli; more recently, Ermanno Olmi concentrated in the autobiographical novel Ragazzo della Bovisa (1986) the script he had produced for a tv series never realised.5 Even an architect like John Hejduk (1987) dedicated a series of drawings to Bovisa, before the arrival of Politecnico. Cinema studios (Armenia Film) and the Scala’s workshop were also once installed in Bovisa.

1.3. Challenges for the area
The industrial decline has made it available again for urban development, although more densely built than it was at the end of the XIXth century -and contaminated. Any further plan and operation in the northern area of the Goccia implies heavy decontamination costs and procedures, in addition to those of building and/or reuse of existing buildings. Dismissed for more than 20 years, the area and its buildings have also been largely covered with spontaneous vegetation, which will also need to be disposed of.

5 Bovisa is further related to cinema; a few studios were located in the area, among which those of “Armenia Films” founded in 1917 and which entrance gate is now that of a public park.
Such vegetation is seen by some citizen as part of the area’s value (see further, section 5). In more general terms, the area’s future development raises more conflict than ever, and its long-lasting closure has had a strong impact on stakeholders’ positions. On the one hand, the main landlords, Politecnico and the Milan comune, have seen their resources collapse since the economic crisis; on the other hand, citizens’ view of the area has irreversibly changed. Now that participation is - at least allegedly - high on political agendas, negotiations between those public administrations and citizens over the area’s future are not quite closed yet.

2. Planning reform: evolution of the governance and planning of the historic built environment

2.1. Evolution of policy 1945-2006

Most industrial areas had already been settled in cities and towns’ peripheries before the war, that is before planning was disciplined by the 1942 so-called Legge urbanistica, which redefined the local master plan (Piano Regolatore Generale, PRG) and extended it to all of the countries municipalities, setting a framework that largely survived during the next 60 years at least. After the Second World War industrial areas were quickly repaired from the damages many had suffered from bombing, and soon resumed their economic and productive importance. At the same time and due also to this very industrial dynamism, migration toward cities and towns of northern Italy caused a rapid urban growth. In such context industrial areas still benefited from an exceptional regime, and planning resumed its pre-war role of facilitator, in particular by realising transport infrastructure (mostly railways then) to connect industrial areas between themselves and with their customers. On the other hand, the peripheries where they had been installed were densifying with residents and buildings of rather low quality to host them (Piccinato, 2010).

Housing was one of the main post-war priorities and necessities for urban planning and policy in northern Italy, while many towns in the South underwent opposite issues of depopulation. Peripheries still offered available and affordable land, and were soon urbanised without much control. Awareness of the noxious proximity of plants is explicit in some PRG of the post-war era, but attempts to limit settlements in their vicinity failed also in front of migratory pressure. Thus the PRG for Milan approved in 1948 was sensibly modified and its aims reduced before its approval by the Ministry of Public Works in 1953. As for industrial areas, the foreseen ones were placed far from the urban core while the existing ones were “fenced off” it by public green areas when possible (Bovisa was already off the scalo Farini, a vast rail yard then in use). All of this contributed to a physical and social marginalisation of peripheries in Milan as elsewhere (Piccinato, 2010; Fiorese & Demichei, 1984).

The two key provisions for planning and urban heritage adopted in 1967 and 1968 had little impact on industrial areas. The first one (L. n° 765/1967 or legge ponte) set the terms for state intervention in the comuni which still hadn’t produced a master plan (PRG), while securing the effectiveness of the latter before their ratification by the regional offices of the
competent Ministry. The second one (Ministerial Decree n° 1444/1968, Decreto sugli standard) systematised zoning and set planning parametric standards for public spaces and functions for each of the urban area typologies it defined (Zone Territoriali Omogenee), according to their common characters. Industrial areas, as “D zones” (as opposed in particular to “A” and “B” zones, urban areas of which the first constitute conservation areas), were given little restrictive standards - that of securing 10% of land for public use also seems to have been scarcely applied (Piccinato, 2010).

The idea of conservation through transformation was introduced by the means of Piani di recupero (“rehabilitation plans”) in a national act on the rehabilitation of the existing built heritage for public housing (Leg. n° 865/1971), soon followed by others which completed and updated it (n°s 10/1977, 392/1978 and 457/1978).

Meanwhile important administrative reform occurred among local authorities: regions were instituted (Leg. n° 281/1970) over the already existing provinces (province). The approval of master plans presented by the comuni was then transferred to them from the Ministry of Public Works (Leg. n° 616/1977).

On these bases and that of administrative decentralisation, the new Milan PRG - technically a general variance to the former - was approved by the Lombardy regional council in 1980. For the next three decades planning practice in Milan operated within this frame, which was soon twisted by local variance areas and in the lack of control and strategic orientations. Or rather such orientations were limited to specific projects and operations like that of the bypass railway plan (Documento direttore del Progetto passante, 1984), which aimed at reconnecting and giving new functions to dismissed areas, and that dedicated to dismissed areas themselves in a comprehensive plan including 164 of them as ‘strategic transformation areas’ (Documento direttore delle aree dismesse, 1988) (Arcidiacono & Pogliani, 2011). A variance area for the area Gasometri was commissioned by the Milan comune to Politecnico di Milano, which introduced the main guidelines for its reconversion, largely unchanged to this day: the leading role of the new Politecnico campus and more or less related research structures, the introduction of more housing and the arrangement of public green spaces (Caputo & Fiorese, 1999; Fortis, 2007).

In the late 1980s dismissed industrial areas were becoming a key issue in Italy, yet addressed rather by local planning than by national policies. The latter then adopted and facilitated such approach of planning exceptions and negotiation, between both public and private actors, with the 1990s Programmi complessi (‘complex programmes’, introduced by L. n° 179/1992 and later completed by L. n° 493/1993 and DM n° 1169/1998). Such instruments, while not providing a general policy framework, introduced more efficiency in local planning and constituted a driver of urban innovation as for reuse and regeneration in areas hit by the industrial crisis. Local administrations played a key role, whilst private developers had become a key partner in planning, and European funds a fundamental resource (Arcidiacono & Pogliani, 2011; Piccinato, 2010; Spaziante, 2008). A similar instrument was introduced by the Lombardy region, the ‘Integrated Intervention Programmes’ (Programmi Integrati d’Intervento, PII; L.r. n° 9/99) which were much drawn upon but failed to provide a structured
answer to urban and regional issues rather than to real estate pressure (Arcidiacono & Pogliani, 2011). Years after, the planning of EXPO Milano still exemplified such focus on specific areas involving key private developers.6

From 1993 on, the direct election of mayors made town planning a more political matter, leading to a new generation of master plans (Piccinato, 2010). Only the general planning framework, as well as eventual sectoral and/or specific policies, then remained in the hands of the Italian government, whilst regions had some margin in addressing their own regulations and policies. In the meantime, European Structural Funds soon had an impact on regional policies and local management, both by providing useful incentives and by implying on their part a competitive capacity to attract them (Piccinato, 2010; Vettoretto 2009). In this context an important agreement (Accordo di Programma) over the area Gasometri in Bovisa was signed in 1997 between Politecnico di Milano, the Milan comune and AEM, which confirmed the variance area’s design for the area Gasometri (see section 6).

While a comprehensive reform of the planning system, sought in particular by the Istituto Nazionale di Urbanistica (INU) during the 1990s, never occurred, a constitutional reform modified the reference to urbanistica in governo del territorio7, while confirming the State’s and Regions’ concurrent competence in the field (Piccinato, 2010). Following the introduction of the Programmi Integrati d’Intervento in 1999, the Lombardy regional council took over its own by reforming local master plans into Piano di Governo del Territorio in 2005 (PGT; L. r. n° 12/2005). This new instrument confirmed previous experiments toward a strong involvement of the private sector, and a negotiated and strategic approach to planning. Much of course depends on its use by each comune (Arcidiacono & Pogliani, 2011).

The State’s exclusive competence was instead set for highly contaminated industrial areas designated as Siti d’Interesse Nazionale (‘sites of national interest’, SIN) by a series of decrees (D. lgs. n° 22/1997, D. M. n° 471/1999 and successive). The procedures for the SINs decontamination and previous analysis are in the sole hands of the Ministry of Environment, as further defined by another decree (D. Lgs. n° 152/2006). Thus strategic sites such as the area Gasometri, declared SIN in 2001, escaped to local planning authorities; this could hardly be compensated by relief from heavy decontamination costs for local planning authorities, as such process has been rarely completed.

As elsewhere, only after industrial archaeology was constituted as a discipline over the 1960s and 1970s (Chiapparino, 2012) industrial heritage in Italy has been addressed by academics, experts and authorities, from the 1980s - contemporaneously with the rise of economic interest in reuse of industrial built heritage (Monti, 2007). Thus the registry of Lombard industrial heritage sites carried on between 1982 and 1997 by Fondazione Micheletti in Brescia and Centro per la cultura d’impresa in Milan,8 as well as the successful application of

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6 See http://www.exp2015.org/
7 Both are better translated as merely “planning”, but the first one has an exclusively urban connotation, whilst the second one refers to the “territory” as a whole and implies a strong management component.
8 The database was consequently published online in 2002: http://www.db.ccdi.glauco.it/ccdi/Industria/introduzione.html
the company town of Crespi d’Adda as World Heritage by UNESCO in 1995, were pioneering in the national context (Chiapparino, 2012; Peghin & Sanna, 2011). After the creation of national commission in 1994 which main achievement was the organisation of a conference and exhibition on ‘Industrial archaeology: conservation and promotion of industrial cultural goods’ (Archeologia Industriale: tutela e valorizzazione dei Beni Culturali Industriali) in 1996, industrial heritage was finally included in the 2004 Codice dei Beni Culturali, which systematised all previous legislation in the field of culture and heritage. But such inclusion provided no framework as for such heritage conservation and management (Boldon Zanetti, 2016; Vitale, 2012; see further, section 3).

In the meantime, the focus was progressively shifting from archaeology to heritage, from conservation to management, as exemplified by the very name and commitment of the ‘Italian Association for Industrial Archaeological Heritage’ (Associazione Italiana per il Patrimonio Archeologico Industriale, AIPAI) founded in 1997. Reuse of industrial buildings has been considered a best practice since the 1980s, while debate as for architectural and functional criteria for reuse is still under way (Mancuso, 2007). There is a remarkable permanence from Italian industrial areas’ original planning to that of their redevelopment: their exceptional character and the absence of a comprehensive national, regional or even local framework.

Fig. 5 The Pirelli headquarters by Vittorio Gregotti, incorporating a former cooling tower, and the Bicocca

9 See http://crespidaddaunesco.org/
10 The Bicocca (literally ‘hovel’) degli Arcimboldi is a XVth-century villa which has given the area its name. It is as much isolated in its new landscape as it was in its original rural one. See http://www.lombardiabeniculturali.it/architetture/schede/3o100-00001/
2.2. Evolution of policy 2007-2016

A major shift in planning reform in Italy over the last decade has been the narrowing of the gap which lay between spatial planning and economic development strategies (Piccinato, 2010; Vettoretto, 2009). This was materialised by a new attention for environmental sustainability, smart city policies and peripheries and urban regeneration, recently addressed by policies such as the regular calls for financing from the Italian government (Urban@it, 2016 and 2017).

Meanwhile, the increase in public-public and public-private partnerships has further amplified the array of stakeholders in the planning process, although the private sector itself found its resources reduced after the financial crisis (Piccinato, 2010; Fregolent & Savino, 2014). But these show no specific interest toward industrial heritage as such, while cultural policies focus rather on contemporary art and architecture and related institutions as a driver of development in peripheries than on industrial heritage.

At the same time, reorganisation of competences has gone on, focusing even more on the local level while the same was being redefined by the institution of the città metropolitane (metropolitan districts) (Legge Delrio, n° 56/2014). Thus the government of the cities and respective metropolitan areas of Turin, Milan, Venice, Genoa, Bologna, Florence, Bari, Naples, Reggio Calabria, and Rome, was reorganised toward more centrality: these metropolitan districts, headed by a restricted council and presided by their main city’s mayor, replace the former province. Be it only due to a necessary period of adaption, the repartition of mandates is still somewhat confused between the metropolitan councils and their respective regions and their main comuni they are basically built upon (Urban@it, 2016 and 2017).

Similarly, recent reforms (2014 and 2016) unified the soprintendenze which for a century had been separated in three different bodies over the same territory, in charge respectively of archaeological, artistic, and architectural and landscape property; these new bodies’ institutional adjustment is still under way, and the elaboration of a coherent legislative and operative framework for industrial heritage conservation and management doesn’t seem a priority (Boldon Zanetti, 2016; Vitale, 2012). More than twenty years after the creation of the national dedicated commission (Chiapparino, 2012), only in September 2016 did the Italian Parliament specifically address industrial heritage issues by organising a conference entitled ‘Industrial heritage in Italy. Da spazi vuoti a risorsa per il territorio’ (Il Patrimonio industriale in Italia. Da spazi vuoti a risorsa per il territorio), without having produced any appreciable achievement.

2.2.1. Banking crisis

The heavy impact the banking crisis had on public finances caused the search for funds at other levels, national and European, still more systematic, while the Italian government as well as the EU were more and more focusing on the urban dimension of socio-economical issues and place-based policies. Meanwhile, public-private partnerships have become a rule, but here again private investment collapsed after 2007 (Urban@it, 2016 and 2017).

In Italy this strategic approach to the structural crisis was applied with particular insistence on urban peripheries, which by then seemed to have gained a new importance within urban
policy in general. Thus with the 2012 Piano città (“urban programme”) the Italian government provided €224mln to finance requalification projects in urban areas, focusing on the more decayed (degradate); the area Gasometri was among the awarded projects. The two last leggi di stabilità (which regulate and define the public finances and expenses) of 2015 and 2016 also included respectively a €200mln and a €500mld clause to finance projects submitted by the comuni aiming to regenerate peripheries. Once again local administrations’ initiative was of key importance, as the comuni had to prioritise the projects they would submit and to build them accordingly not only to their own planning instruments but also to the government’s requirements (Urban@it, 2017). Thus the importance of the Goccia’s requalification in the Milan comune agenda is shown by the application to the Piano Città (see further, section 6).

Finally, transfer of a large amount of State property to local authorities (D. Legs n° 58/2010) had an impact of their alienation, which became a solution considered by the latter to cope with the finance crisis they have been undergoing. At the same time, it brought to the local level involved associations’ public interlocutors (Spaziante, 2008).

2.2.2. Climate change

Urban resilience to climate change is quite a new priority for public policy in Italy. The EU SEA Directive was incorporated in Italian legislation only in 2006, with the so-called Codice dell’ambiente (D.lgs n° 152/2006), introducing in particular the valutazione ambientale strategica (or VAS, Strategic Environmental Assessment) and valutazione d’impatto ambientale (or VIA, Environmental Impact Assessment). Furthermore the Italian regions (responsible for planning over their comuni) applied the Codice in diverse ways and with different timings; the situation was and still is quite diverse from one region to another. The Carta di Bologna per l’ambiente (Bologna Charter for the environment), elaborated among others by components of WWF Italia and the planning committee Urban@it presided by Alessandro Balducci and recently signed by several mayors, urges the national and local governments to take measures as regard land use, circular economy, climate and hazard resilience, energy transition, air and water quality, green areas and biodiversity as well as sustainable mobility.11

Incentives toward energetic sustainability in building and restoration (but also electro-domestic) were introduced only in 2013, with the so-called ‘ecobonus’ which offered 50 to 65% tax credit for interventions in that sense. Consequently to the earthquake which on August 24, 2016 damaged many urban cores in central Italy, the Renzi government has been considering a bill (called Casa Italia) which would enhance the ‘ecobonus’ system and introduce a similar system for interventions toward resilience to seismic events. Bologna was the first city in Italy to experiment and implement comprehensive environmental planning, through BLUE AP (Bologna Local Urban Environment Adaptation Plan for a Resilient City), an ambitious plan which was initiated in 2012 and concluded in 2015, thanks to EU funds (through the LIFE programme).12

12 See http://www.blueap.eu/site/il-progetto/
An environmental as much as a civic issue, that of public green spaces is key in Milan, as recently expressed by initiatives and debates regarding the railyards (*scali ferroviari*), including one confining with the Goccia, *scalo Farini*.

### 2.2.3. Neoliberal turn

The 2007 banking crisis accelerated a progressive shift toward neoliberal policies, implemented in particular under the Monti government (2011-2012). Apart from the heavy accountability requirements soon applied to all public administrations, the Stability and Growth Pact (known in Italy as *Patto di stabilità*) has been particularly hard on the *comuni*. Many of them, among which that of Milan, have been forced to sell property through ‘alienation and enhancement plans’ (*piani delle valorizzazioni ed alienazioni*), generally on an annual basis, to avoid penalties, in the lack of more structural solutions (Fregolent & Savino, 2014; Urban@it, 2016).

In terms of planning more specifically, a consequence of the neoliberal turn often identified in Italy is a growing inadequacy of plans as the main instrument to manage urban areas, in addition to the financialisation of the transformation processes at stake in cities (Fregolent & Savino, 2014). Thus sectoral policies are often preferred, such as the financing programs for peripheries mentioned above. The recent administrative reforms, rather than to strengthen planning authorities and instruments, seem to have tackled them by bringing some confusion in their competences and instruments (Urban@it, 2017).

### 2.2.4. Technological innovation

Technological innovation is another field in which Italy seems characterized by some confusion in its governance, while it represents 1.3% of the country’s GDP against the 2% average in the EU. At the state level, tax credits have been introduced by the Industria 2015 programme (Ministerial Decree n° 98/2008) in favour of energy efficiency, sustainable mobility and ‘made in Italy’ manufacturing; incentives for private investment are still at the core of the *Industria 4.0* programme which the Renzi government presented in September 2016. On the other hand, ‘smart city’ policies have been promoted thanks in particular to state funds such as those made available by the 2012 “Smart Cities and Communities and Social Innovation” call (Decreto Direttoriale prot.n. 391/Ric); an observatory (Osservatorio Smart City) has also been created by ANCI, the Association of Italian City Councils.

As for regions, most of them have set up networks or firms -under their control- to promote and coordinate research & development. At the same time, many *comuni* have created science and technology parks and business incubators in collaboration with local universities, such as planned in Bovisa (see further, section 6).

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13 An exhibition and series of public presentation entitled *Dagli scali, la nuova città* (“From the [rail]yards, the new city”) was promoted in April 2017 by Sistemi Urbani of the group Ferrovie dello Stato (national railways) in collaboration with the comune and regional council (see http://www.scalimilano.vision/).

14 See http://www.comune.milano.it/wps/portal/ist/it/servizi/casa/chi_cerca_uno_spazio/Bandi+per+la+ven-dita+di+immobili_new
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<td>1970s De-industrialisation and progressive dismissal of the area</td>
<td>1995 Crespi d'Adda company town is declared World Heritage Site by UNESCO</td>
<td>Mid-2000s Real estate prices in the Milan area have reached a climax</td>
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<td>1980s The 'stazione nord' is modernized; the Bovisasca flyover is built;</td>
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<td>2015 EXPO Milano</td>
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<td>the railway bypass (connecting the regional main roads) is initiated</td>
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**Policy themes**

- **National & regional (non-local)**
  - Local (municipality, Local authority)

- **Policy themes**
  - **National & regional (non-local)**
    - Local (municipality, Local authority)

| 1980s-1990s Reuse of dismissed areas as a best practice; Politecnico settles in Bovisa |
| 1982-1997 Inventory of industrial heritage in Lombardy by Fondazione Micheletti in Brescia and Centro per la cultura d'impresa in Milan |
| 1987 A variance area is approved for the Bicocca area in northern Milan periphery, followed in 1989 by a convention between stakeholders including the comune and Politecnico; it is planned to host a new university and research facilities as well as housing and commercial activities |
| 1991-1992 Programmi complessi 1990s-2000s From industrial archaeology to industrial heritage? Politecnico as the driver of change in Bovisa |
| 1994 A national commission is created (Commissione nazionale per i beni archeologico-industriali, within the Ministero dei beni culturali) |
| 1997 Agreement (Accordo di programma) between comune, Politecnico, Regione Lombardia and AEM (local power firm) for the gasometri area’s requalification into a Science & Technology Park; Politecnico starts a call for requalification projects |
| 2000s-2010s Toward the CBCP; the decontamination issue |
| 1997 The Legislative decree n° 22/97 introduces the Siti d'Interesse Nazionale (SIN), identifying contaminated sites and defining the State’s responsibility in their reclamation |
| 2004 Codice dei Beni Culturali e del Paesaggio (where industrial heritage still isn’t considered specifically) |
| 2010s La Goccia, a 'Central Park' for North Milan? 2012 Piano Città: the Ministry of Public Works offers funding for urban regeneration projects 2016 The Italian Parliament organises a conference dedicated to industrial heritage, entitled Il Patrimonio industriale in Italia. Da spazi vuoti a risorsa per il territorio Approval of the bill on land use containment? |
| 2012 The Milan Piano di Governo del Territorio is approved: the Goccia is defined as an Area di Trasformazione Urbana (‘Urban Transformation Area’, ATU), confirming the 1997 Restrictions to land use and promotion of the built environment’s... |
| Incentives (including financial) | 2013 The Milan comune is attributed 5mln€ within the Piano Città |
| Direct intervention | 1984-1988 The Milan comune issues two documents (Documenti direttori) considering the reuse of dismissed peripheral areas, among which the Goccia. 1992 Politecnico courses start in the Goccia. 1994 Politecnico settles in the ex Ceretti & Tanfani area (in Bovisa but outside the Goccia). 1994 The northern part of the Goccia is no longer accessible to the public. |
| | 2012 The Comune applies to the Piano Città with a land reclamation project in the lot 1 (A and B), corresponding to the surroundings of the two remaining gasometers (€5mln were attributed, in 2013). |
| | Resuming of decontamination operations in the Lotto 1, and redevelopment of the northern part of the Goccia? |
| Communication and civic engagement | 1996 Exhibition and conference on Archeologia industriale. Tutela e valorizzazione dei beni culturali industriali held in Rome, main achievement of the national commission created in 1994. 2002 A database on industrial heritage in Lombardy is made available online by the Centro per la cultura d’impresa and Fondazione Luigi Micheletti. 2005 Cultural association La Scighera is created in Bovisa. 2006 A section of the Milan Triennale opens in La Goccia (it closed in 2011). 2006 An agreement is signed between Euromilano, Associazione Zona Bovisa and Temporiuso (an association promoting reuse of urban spaces) for the reuse of a building in via Lambruschini: BaseB. |
| | 2012 Comitato La Goccia is created. 2013 Politecnico’s 150th anniversary; in the Goccia a few panels telling the area’s history are installed around the campus (still standing). 2014 A petition is published by Comitato La Goccia (also on change.org where it collected slightly less than 1500 signatures), to be sent to the mayor and deputy for planning, for the safeguard of the Goccia as a park. 2014-2015 The research and civic engagement project Ascoltiamo Bovisa, commissioned by Politecnico, is carried on and leads to the publication of a report. |
| Knowledge – research, studies | 1982-1997 A registry of industrial heritage in Lombardy commissioned by the Lombar Regional council is elaborated by Fondazione Micheletti and Centro per la Cultura d’Impresa. 1984-1996 Il coltello di Delfo, a main periodical dedicated to industrial studies. |
| | 2013 The website archeologiaindustriale.net is created (it was awarded the Special Mention at the Europa Nostra Awards 2016). |
| | 2014 The Milan comune initiates to map dismissed buildings and areas (no mention of any in the Goccia). |
Table 1: Chronology of cultural heritage policy development related to the historic urban core including all levels of policy making, e.g. national, regional/provincial and local (see attachment)

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>Creation of the Istituto per la cultura materiale e l’archeologia industriale in Rome</td>
</tr>
<tr>
<td>1988</td>
<td>On behalf of the comune Politecnico produces a plan for the Goccia area, used for a variance area adopted the same year</td>
</tr>
<tr>
<td>1997</td>
<td>The Associazione Italiana per il Patrimonio Archeologico Industriale (AIPAI) is founded</td>
</tr>
<tr>
<td>2017</td>
<td>Two important conferences dedicated to industrial heritage and including planning and management perspectives are organised by AIPAI in Rome and Bologna</td>
</tr>
</tbody>
</table>

3. The legal and policy framework in 2017 and beyond

3.1. Policy themes and general goals – national and local

3.1.1. Regulation

Industrial heritage still isn’t addressed specifically nor comprehensively by Italian heritage legislation (Codice dei Beni Culturali). Such category is indeed included among beni culturali (“cultural goods”) only as “property and instruments of interest for the history of science and technique more the fifty years old”\(^{15}\), or, once they have been listed by competent authorities, more generally “unmovable and movable items, belonging to anyone, which assume a particular importance for their relation to the history of politics, of the military, of literature, art, science, technique, industry and culture in general [...]”\(^{16}\). The Codice does not refer at all to industrial landscape, excluding its listing as much for single property as for complexes of landscape value (vincolo paesaggistico) (Boldon Zanetti, 2016; Vitale, 2012). Finally, regarding the most recent constructions, listing can be considered only after 50 years of existence, or 70 for those public-owned (Carughi, 2012).

Thus a key issue for industrial heritage - as for contemporary architecture in particular - is the lack of specific conservation and management instruments, facing public and private developers’ interest in dismissed (industrial) areas. Whilst functional reuse of former industrial buildings and areas is now generally considered a best practice (Castronovo &

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\(^{15}\) TITOLO I: Tutela, Capo I: Oggetto della tutela [...], Articolo 11 Cose oggetto di specifiche disposizioni di tutela
1. Sono assoggettate alle disposizioni espressamente richiamate le seguenti tipologie di cose: [...] 
   h) i beni e gli strumenti di interesse per la storia della scienza e della tecnica aventi più di cinquanta anni [...] 

\(^{16}\) TITOLO I: Tutela, Capo I: Oggetto della tutela, Articolo: 10 Beni culturali, 3.: Sono altresì beni culturali, quando sia intervenuta la dichiarazione prevista dall’articolo 13 [...], d) le cose immobili e mobili, a chiunque appartenenti, che rivestono un interesse particolarmente importante a causa del loro riferimento con la storia politica, militare, della letteratura, dell’arte, della scienza, della tecnica, dell’industria e della cultura in genere, ovvero quali testimonianze dell’identità e della storia delle istituzioni pubbliche, collettive o religiose.
there is little consensus and no framework as for the processes and criteria of such reuse, neither in planning and functional nor in architectural and technical terms (Arcidiacono et al., 2015; Carughi, 2012; Mancuso, 2007). Decontamination procedures and costs are a key issue, made even more critical by the very extension of former industrial areas. In the case of SINs, decontamination as opposed to securing is compulsory, and the exclusive competence of the State does not necessarily imply quick action. The Bologna Charter mentioned above (section 2) thus urges for an acceleration of decontamination processes in SINs.

Governance issues, both between the public and private sectors and among the various levels of administration (state, region and comuni plus città metropolitane where they have been instituted), do not regard only decontamination processes. In particular, building activity and planning fees are an important source of revenue for the comuni, which are also the first interlocutors of private developers; thus the management of real estate pressure, heavy in dismissed areas, is far from easy (Arcidiacono et al., 2015). Many associations like Legambiente (‘league for the environment’), coordinating action at local and regional levels, are much active in whistle-blowing when regulations regarding land use are not enforced, or in calling for more efficient ones (Fregolent, 2014).

In Lombardy the Piani di Governo del Territorio (PGT) instituted by the 2005 regional act consist in three-folded master plans:

- the Documento di Piano indicates the plan’s general aims and principles, and identifies transformation areas (Ambiti di Trasformazione Urbana, ATU), like the area Gasometri itself in the Milan PGT; it is valid for 5 years;
- the Piano delle Regole regulates land use in consolidated urban areas (excluding “transformation areas”), as well as the parameters for possible compensation (perequazione) of building rights between different areas of the comune;
- the Piano dei Servizi is potentially the most innovative instrument by the emphasis it puts on services and public infrastructures, for which it sets standards in both quantitative and qualitative terms in each of the “local identity units” (Nuclei d’Identità Locale, NIL) it identifies.

Confronted with this strong and articulate normative framework, the Milan PGT (2012) has been considered scarcely strategic and in particular lacking a metropolitan vision, while inefficient at securing both public interest and the application of its general principles in specific contexts (Arcidiacono et al., 2015).

3.1.2. Incentives (financial tools)

There are no incentives related directly to industrial heritage’ planning and management; only does the tax credit for renovations introduced in the 2013 Legge di stabilità and the successive ones apply, as well as the ‘ecobonus’ in favour of works toward energy efficiency (Urban@it, 2017).

Although financial support from the Ministero per i Beni Culturali through the local soprintendenza is theoretically possible for restoration of listed property, the scarce means of public administrations, have made it very rare and limited to cases of clearly threatened
property and/or monuments of particular relevance. This is true also for property which restoration or refurbishment is eligible to the ‘Art bonus’\textsuperscript{17}, introduced in 2014 and which offers a 65% tax credit, but requires on the part of institutions managing such property a sensible capacity to attract sponsors (Boldon Zanetti, 2016). In such context, there is virtually no opportunity for any incentive for the management of industrial heritage as such.

3.1.3. Direct intervention – municipality/government as key actor
The local level, that of the comuni, is more and more considered a key to approach structural issues (Urban@it, 2016). Thus key features of local initiative include the introduction (and in some cases eventual removal) of traffic restrictions (zone a traffico limitato, ZTL) and pedestrian areas (isole pedonali), as well as the regulation of the occupation of public space. In the current deregulation context, and under the more normative authority of the government and regions, the comuni have key initiative in the planning and management of their territory, and the sindaci (mayors) play an important role in that sense. Some comuni have even disregarded their own previously adopted planning strategies, and exceptions to master plans are now quite common, especially when it comes to private investment (Fregolent & Savino, 2014). As for the città metropolitane, being themselves composed of single comuni they yet seem to have little initiative of their own (Urban@it, 2017).

In this context, the case of the Goccia exemplifies the trend in Milanese planning to entrust vast areas’ management to single actors -Politecnico in this case (Arcidiacono & Pogliani, 2011).

3.1.4. Communication and civic engagement
Many regions have included public participation as a condition for planning, such as Lombardy where the PGTs, once they have been drafted and publicised by the respective comuni, are supposedly revised through constant confrontation with other public actors (Piccinato, 2010; Arcidiacono & Pogliani, 2011). Comuni-managed ‘Urban centers’\textsuperscript{18} also can play a role (where they exist) in participative planning, as places where citizens and administrators can meet and discuss their cities’ issues in occasion of public lectures, presentation or meetings, and/or by providing multimedia resources. But former industrial areas are often little inhabited and/or accessible, which might motivate little participated planning and management processes (Fregolent, 2014).

Thus Politecnico only recently sought civic engagement other than by exhibitions and public presentations, through the elaboration of the ‘Ascoltiamo Bovisa’ (Aa.Vv., 2015) report which involved many interviews and focus groups with citizens, local associations and a variety of stakeholders.

As for industrial heritage, the main communication tool seems to be the website archeologiaindustriale.net, which approach is rather informative than engaging; in any case it

\begin{itemize}
\item[17] See http://artbonus.gov.it/
\item[18] See for instance http://www.comune.milano.it/wps/portal/ist/it/servizi/territorio/urban_center
\end{itemize}
was awarded the Special Mention of the European Union Prize for Cultural Heritage by Europa Nostra in 2016.\textsuperscript{19}

\subsection*{3.1.5. Knowledge – research and studies}

Along to the National Institute for Planning (INU)\textsuperscript{20}, the main public consulting body and repository in the field, and the municipalities’ association (ANCi)\textsuperscript{21}, most universities in Italy have a planning department and participate in the planning debate and nurture a reforming culture (Piccinato, 2010). National and international research programmes imply their coordination in networks and research programmes (PRIN, \textit{Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale}). Yet few have been dedicated specifically to industrial heritage specifically, and rather to the architectural and conservation than to the management and planning aspects (Mazzotta, 2007). Also Urban@it, a national planners and policy makers’ committee and network committed to publish an annual report on cities (Urban@it, 2016 and 2017), has a broad perspective and addresses rather dismissed areas than industrial heritage as an issue.

DOCOMOMO Italia is more dedicated to the field, as part of XXth-century heritage though.\textsuperscript{22} Associazione Italiana per il Patrimonio Archeologico Industriale (AIPAI) promotes specialised conferences and publications and has edited a periodical from 2007 to 2014, which is to be revived,\textsuperscript{23} and recently organised the conferences ‘Regeneration Strategies for Industrial Heritage. Heritage telling, creative factory, temporary use, business model’\textsuperscript{24} and ‘For Conservation and Promotion of the Italian Industrial Heritage: Conservation Apparatus, Planning Tools, Civic Engagement’\textsuperscript{25} These conferences programmes show a perceivable shift in approaches to industrial heritage from the earlier inventories and morphological-typological studies (Chiapparino, 2012), positively exemplified by the publication by the ‘Institute for Material Culture and Industrial Archaeology (Istituto per la cultura materiale e l’archeologia industriale) of the periodical Il Coltello di Delfo (1984-1996), and the already mentioned ‘industrial archaeology’ database commissioned by the Lombardy Regional council (see section 2).

As for the Goccia, since the late 1980s Politecnico has produced an enormous quantity and variety of studies and plans for the Goccia and the whole Bovisa campus, which provide a rich and necessary basis for the area’s understanding and planning (Balducci, 2007; Infussi, 2007).

\begin{footnotesize}
\textsuperscript{19} http://archeologiaindustriale.net/4626_archeologiaindustriale-net-riceve-la-special-mention-europa-nostra-awards-2016/
\textsuperscript{20} Istituto Nazionale di Urbanistica, which periodical \textit{Urbanistica informazioni} is an important repository, see http://www.inu.it/
\textsuperscript{21} Associazione Nazionale dei Comuni Italiani, see http://www.anci.it/
\textsuperscript{22} See http://www.docomomoitalia.it/
\textsuperscript{23} See http://www.patrimonioindustriale.it/it/rivista/
\textsuperscript{24} Strategie di rigenerazione del patrimonio industriale… See http://www.patrimonioindustriale.it/it/strategie-di-rigenerazione-del-patrimonio-industriale/
\textsuperscript{25} Per la salvaguardia e la valorizzazione del patrimonio industriale italiano: dispositivi di tutela, strumenti urbanistici, collaborazione associativa, see http://www.patrimonioindustriale.it/it/seminario-urbanistica-associazionismo/
\end{footnotesize}
It is not included in the inventory of areas and buildings in decay initiated by the Milan comune in 2014.26

3.1.6. Institutional innovation
Industrial heritage might suffer from the various bodies which partially deal with it; thus the introduction within the Ministry of Culture of the ‘Directorate general for contemporary art and architecture and urban peripheries’ (Direzione Generale Arte e Architettura contemporanee e Periferie urbane, DGAAP) in 2014, which organised the Futuro Periferie conference, only shows a strong relationship seen between peripheries as an issue and culture as an opportunity (Peghin & Sanna, 2012; Vitale, 2012).

3.2. Future trajectory of policy
The conference held at the Italian Senate in 2016 doesn’t seem to have had outcomes yet, and in general it seems that industrial heritage is dedicated little specific attention by planners and policy makers in the hands of local authorities and/or more or less specialised associations. The planning and management field, as opposed to that of architecture and restoration, has addressed it only marginally, as a component of peripheries to be regenerated.

Thus it might be once again a indirectly related act that may have a decisive impact on the planning and management of industrial heritage: a bill dedicated to the ‘containment of land use and reuse of built land’ (Disegno di legge sul Contenimento del consumo del suolo e riuso del suolo edificato, n. 2039), if it is ever approved and depending on its application, may well not only foster the regeneration of dismissed areas such as the Goccia, but also the reuse of industrial buildings.27 Similarly, decontamination regulation may have an impact on industrial heritage conservation and management, as much binding confronted to available resources; securing (messa in sicurezza) might in some cases suffice, and should be more considered within environmental policies.

But a revision of the Codice dei Beni Culturali in favor of a more explicit consideration of industrial heritage might still be needed (Carughi, 2012; Vitale, 2012), along with the building of more awareness among practitioners (Mancuso, 2007).

<table>
<thead>
<tr>
<th>Type of modification they seek (WHAT)</th>
<th>Tangible at</th>
<th>Intangible attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requalification (main use as a campus and science &amp; technology park, mixed with Industrial heritage promotion?)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

26 See http://www.comune.milano.it/wps/portal/ist/it/servizi/territorio/monitoraggio_edifici_aree_stato_di_degrado
27 http://www.camera.it/leg17/126?pdl=2039
<table>
<thead>
<tr>
<th>Regulation</th>
<th>No listing in the area</th>
<th>Services standards are set by the ‘Services Schedule’ (Piano dei Servizi) within the PGT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Specific planning standards are set for the ‘Transformation Area’ (ATU) within the Milan master plan (PGT)</td>
<td></td>
</tr>
<tr>
<td>Incentives (including financial tools)</td>
<td>Regular calls for funding toward urban regeneration in peripheries from the Italian government</td>
<td></td>
</tr>
<tr>
<td>Direct intervention tools</td>
<td>Milan municipality (comune) is both a key land owner in the area along with Politecnico, and the main planning authority</td>
<td></td>
</tr>
<tr>
<td>Communication and engagement tools</td>
<td>Studies commissioned by Politecnico (e.g. ‘Ascoltiamo Bovisa’) have involved residents</td>
<td>Little has been done (e.g. informative panel on the Goccia’s history installed in Politecnico campus)</td>
</tr>
<tr>
<td>Knowledge tools</td>
<td>Many studies and theses dedicated to the area</td>
<td>Many studies and theses dedicated to the area</td>
</tr>
<tr>
<td>Institutional innovation – e.g. new partnerships</td>
<td>No specific and independent body has been created for the area’s planning and management</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Summary of policy and action for management and planning of the historic urban core

4. Change in the cultural heritage of the area

While much changed has occurred in the southern area of the area Gasometri between the beginning of the settlement of Politecnico in 1989 and the completion of the new library in 2016, since the closure of the last working plants and of the area itself in 1994 the northern part of the area Gasometri has been abandoned to spontaneous vegetation.
4.1. Physical change

Most buildings now hosting Politecnico facilities (represented in blue on the above map) in the southern area are progressively reconverted industrial buildings. After the dismissal of industrial plants, Politecnico’s settlement was thus the main driver in the area’s regeneration from a first phase which end can be situated in 1997, when the new ‘Bovisa-Politecnico’ train station was inaugurated (also in blue on the map, like the Villapizzone station on the opposite side). The closing of small shops in the area slowed down, while old businesses were replaced (Cognetti, 2007c; see further). At the same time, the Goccia was being isolated from Bovisa, Villapizzone and other confining boroughs by the cancellation of level crossings in favour of a few overpasses and underpasses (Aa.Vv., 2015).

In a second phase, as foreseen by the 1997 agreement although it was never implemented (see section 6), other actors settled in the area while due to the northern part’s decontamination issues Politecnico further intensified its presence between the existing facilities and the gasometers. The new facilities (in blue) and a new car park (facing ‘Bovisa-Politecnico’ station) were built anew, either on already available land or on the site of decayed warehouses; last among them, the library was inaugurated only in 2016. This is the case also for Istituto Mario Negri, inaugurated in 2007. Instead, BaseB reused a former plant

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28 The area covered by purple stripes to the south-east is the scala Farini.
while Triennale di Milano installed and occupied a temporary structure\textsuperscript{29} -until a few years ago (see the following subsection).

Among these former industrial and new buildings used by Politecnico and other institutions, a few dozens late-XIXth to early-XXth century buildings (in pink on the map) have remained, most of them along via Lambruschini, which crosses the area between Bovisa and Villapizzone train stations (Cognetti, 2007a). These few blocks are in rather good conditions due to their use, except one situated close to the underpass toward Villapizzone which inhabitants have been (officially at least) evacuated due to its disrepair (on-site observation). This is the case now also for the former industrial buildings temporarily reused by Triennale di Milano and BaseB (see next paragraph).

The northern area instead has remained untouched since industrial activity ended, but for vegetation. Heavier industries -gasworks in particular- were located in the northern area, which is less densely built and now largely occupied by a spontaneous wood. As part of a general study of Milan’s built environment, the area’s former industrial buildings, dating back from the early XXth century to the 1960s (the two remaining gasometers were built respectively in 1906, and in 1930 for the bigger one), they have been analysed in a report commissioned by the \textit{comune} in the late 1990s (those considered ‘to be maintained’ are represented in black on the above map)\textsuperscript{30}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig7_8.jpg}
\caption{The former Bovisa station,\textsuperscript{31}}
\end{figure}

4.2. Changes in functions and activities

After their start, the end of industrial activities are the biggest change that occurred in the area, which function within Bovisa and other surrounding boroughs, and within the city and metropolitan district of Milan in general, is still not fully settled, mainly because of its northern area’s lasting abandon (Cognetti, 2007a and c).

The Politecnico campus has replaced industry as the main activity characterising the area, at least in the southern part of it (and probably will also in the northern one); in spatial terms, it occupies along with the Istituto Mario Negri 1/6 of the entire area (Pogliani, 2014). Although

\footnotesize{
\textsuperscript{29} Both on an area owned by Euromilano situated towards Villapizzone, see fig. 13
\textsuperscript{30} Although such report has been cited by several interviewed professionals, it has not been possible to access it.
\textsuperscript{31} From lameralcalatina.net. The photo, which source is unspecified, is dated January 1984 but seems rather to date back to the 1960s.
}
productive activities have virtually disappeared from Bovisa, some continuity has been secured by the use of former industrial buildings by an Engineering campus, which implies the presence of machines and laboratories. While they were used mainly for the transportation of materials and wares and are now mainly by Politecnico students and staff, another continuity lays in the railways themselves. Finally, the Goccia might be still more dependent to the university’s rhythms -in turn ‘invaded’ or ‘abandoned’- than it was to the factories’, as unlike workers then only a few students live in the campus’ residence, and some more in the rest of Bovisa (Cognetti, 2007a and c).

The gradual settlement of Politecnico since 1989 (see further, section 6) enabled a progressive investment and installation of the campus, restoring and providing facilities for one building at a time according to the university’s own technical office’s plans, until it was inaugurated as a whole in 1997 as the Engineering campus. The campus was extended also to other areas in Bovisa: in 1992, additional facilities (mainly classrooms for the Architecture department) were created within the former Ceretti & Tanfani factory, and in 1997 the same happened in the former Fbm plants (Engineering department), east of the Goccia (Bruzzese, 2007). By 2007, the Bovisa campus counted 12.000 students, corresponding to 6% of the whole student population in Milan (Cognetti, 2007).

As sought for by Politecnico (see further, section 6), new cultural functions invested Bovisa from the 1990s: for instance, in the Goccia itself, the Triennale exhibition section in Bovisa (2006-2011), the creative space Base8 installed in a dismissed building by the association TempoRiuso (from 2006)32, the first office of the cultural firm Esterni (settled in 1995)33 (Bruzzese & Cognetti, 2013; Cognetti, 2007a and c). Be it due to the lasting stasis of the northern part of the area, to the lack of supportive functions and facilities or to better opportunities elsewhere, most of these functions, and all of those cited having closed over the last few years. Instead, other activities and experiments installed elsewhere in Bovisa have become rooted in the borough, like the social and cultural association ‘La Scighera’,34 local section of the ARCI (‘Recreational Cultural Italian Association’, Associazione Ricreativa Culturale Italiana), or Urban Village Bovisa,35 one the first co-housing experiments in Milan -where a Comitato La Goccia member lives.

An increase in housing prices and the beginning of a gentrification process were observed about a decade ago (Cognetti, 2007c; Foot, 2007), but it is possible here to affirm whereas this trend is still under way or not. In any case, occupations have much evolved, as exemplified by those exerted in the housing block of the already cited study by J. Foot (2007): ‘cinema researchers, editors, illustrators, journalists, students and retired people, but also delivery men, tram drivers, doormen and bricklayers.’36

As for the blocks in the Goccia itself, they host apartments on the upper floors and for most of them student-oriented Horeca activities on the ground floor. A few of them are much rundown and offer untransformed traces of the area’s working class past, as a mere wall right on

32 [http://www.temporiuso.org/?page_id=607](http://www.temporiuso.org/?page_id=607)
34 See [http://www.lascighera.org/](http://www.lascighera.org/)
35 See [http://www.cohousing.it/urban-village-bovisa/](http://www.cohousing.it/urban-village-bovisa/)
36 p. 75
via Lambruschini on which a lintel reads *panificio* (bakery). Apart from the bars and student-oriented activities, though, the area offers very few services for residents, who thus have to cross (on foot) the railways through Bovisa or Villapizzone station or (by car) take the Villapizzone underpass or the bridge towards Ghisolfa for shopping or any other errand.

The northern area, closed since 1994, is still deprived of any effective function but informal and virtually unused, but for informal exploration.

![Image of the taller gasometer reflected in a graffiti on BaseB’s façade and a climber set up on the same for the Triennale](http://lucaesironi.blogspot.com and http://mapio.net/s/49265523/)

**Fig. 9 & 10** The taller gasometer reflected in a graffiti on BaseB’s façade and a climber set up on the same for the Triennale.

5. How people experience the place and changes

Students, professors and university staff as well as a few snack bar tenants and waiters constitute the main group of users of the area, whilst only few dozens of people actually live there, in the few housing blocks that it counts.

5.1. Citizens’ sense of place

In addition to an online survey published on Facebook pages ‘Bovisa’ and ‘Comitato La Goccia’, which have received 33 answers, in-person interviews have been led with a few residents or users of the area: the manager of the ‘Marvy’ bar by the roundabout in via Lambruschini, the manager of the Facebook page ‘Bovisa’, a group of three Engineering undergrad students. Seeking at short answers and aiming to identify respondents’ relationship with the place and its heritage without referring explicitly to heritage or other values, the following set of questions was used - in a more conversational way for in-person interviews: 1) How much do you frequent Goccia (each day, week...)?, 2) How long have you been frequenting Goccia (è nato/a in Bovisa o da quanto ci vive?), 3) In which occasions do you frequent Goccia (che uso ne fa)?, 4) What positive aspects do you see about Goccia?, 5) What negative aspects do you see about Goccia?, 6) What do you think of Goccia’s built environment?, 7) How does Goccia make you feel?, 8) What would you change about Goccia,

37 From [http://lucaesironi.blogspot.com](http://lucaesironi.blogspot.com) and [http://mapio.net/s/49265523/](http://mapio.net/s/49265523/)
38 [https://www.facebook.com/Bovisa/](https://www.facebook.com/Bovisa/)
39 [https://www.facebook.com/comitatolagoccia/](https://www.facebook.com/comitatolagoccia/)
cosa vorrebbe trovarci? and 9) Do you have memories associated with Goccia? The central question was how people experience Bovisa (sense of place) and what role heritage plays in this.

Among respondents to the online survey, a third (33%) is aged between 30 and 44, and another one (33%) between 45 and 59, constituting a mainly middle-aged to past-public. 45% of those living in Bovisa have been for 0 to 10 years, while 30% either were born there or have been living there for more than 30 years: thus 75% have been related to the area for a long time. Crossing this with answers to the question ‘How much do you frequent the Goccia?’, which indicate that 52% say they have never been in the Goccia, and 15% ‘sometimes’, show that its frequenting is very marginal. Many answers indicate that the definition itself of the Goccia varies, in which its seems considered limited to the northern enclosed area (for instance ‘never frequented it because fenced off’), even among its very inhabitants:

‘I live by it, but I don’t frequent it because I suspect it has to be decontaminated’ (Vivo accanto ma non la frequento perché sospetto sia da bonificare)

Such confusion between the northern area of the area, officially inaccessible to the public since 1994, and the whole Goccia, confirms a rather scarce frequenting for most residents of the surroundings; thus it is frequently noted that the railways giving the area its raindrop (goccia) shape also represent a frontier seldom crossed (Aa.Vv., 2015; Cognetti, 2007a and c). Only does the ‘Bovisa-Politecnico’ station itself, one of the most frequented places in the area, offer a place where students and inhabitants encounter -or rather fall across (Tut Gut, 2007).

Although this is not evident in the survey’s answers, the most important group frequenting the Goccia daily (or at least during the week) is that of students, teaching and administrative staff of Politecnico, along with people working in related businesses: sandwich shops (paninoteche or tavole calde) and cafés, as well as a few copy shops. Contrarily to many residents in Bovisa or Villapizzone, these persons have frequented the Goccia for a few years, depending on their position, up to the early 1990s when the campus (originally Architecture) settled there. Only does a few dozens of people live in the several housing blocks that the Goccia counts, a couple of whom did answer to the survey.

In the survey’s answers, mentioned uses range from mere transit (6% of answers) to work (30%) and leisure (walks and or notably photography, 33%). In-person interviews gave some indication that frequenting is also limited in terms of hours per day and days per week: interviewed students said they would come only for lessons and scarcely use the library.
while the only reason for a few shopkeepers to open at night (on Fridays and Saturdays) is the hope for more student frequenting in those times (and for more income). Coming back to the survey, it is remarkable that although the northern part of the area is enclosed and officially inaccessible to the public, some respondents admittedly trespassed it, as documented also by the many photographs of dismissed industrial buildings published on Instagram, FlickR and other social networks.41 Apart from those marginal uses, though, collected answers show that in spite of its vicinity both to Bovisa and Villapizzone (where at least two respondents live) boroughs, most respondents hardly visit the Goccia, while those who do make uses that allow no appropriation or enhancement of the place.

Answers to the survey’s question about positive aspects of the Goccia mentioned ‘greenery’ (il verde) for 72% of them, for instance in those terms:

‘The bond between vegetation and architecture’ (Il connubio tra vegetazione e architettura)
‘A lot of greenery, a lung for Bovisa, a park that could offer areas for concerts, [social] aggregation, sport, events of any kind.’ (Tanto verde, un polmone per la Bovisa, un parco che puo offrire aree concerti, aggregazione, sport, manifestazioni di qualsiasi tipo.)

Only 9% instead mentioned valuing industrial heritage, still along with greenery:

‘An enormous green area planted with tree, and the skeletons of the gasometers are an interesting sign of the city’s industrial past’ (Enorme area verde alberata, e scheletri dei gasometri sono un interessante segno del passato industriale cittadino)

‘A wonderful green urban oasis with beautiful industrial buildings’ (Una meravigliosa oasi verde urbana con bellissimi edifici industriali)

18% called for the area’s regeneration -but not necessarily considering a specific new use-, whilst 18% insisted on the risk of cementification:

‘A green area available to citizens in a socially disadvantaged context, which should be requalified’ (Un’area verde fruibile dai cittadini in una zona difficile socialmente e che andrebbe riqualificata)

‘It’s an area that lures the predators of real estate speculation’ (è un’area che fa gola ai predatori della speculazione edilizia)

Such importance attributed to greenery is thus also expressed along with preoccupation for development projects aimed at a restricted group of people, which would reduce its amount. Among negative aspects, the northern area’s inaccessibility was mentioned by many respondents (40%), along with abandon, decay (degrado) and pollution/contamination (inquinamento), indicating a desire to occupy it, against the perspective of an elitarian appropriation:

‘Thus for reasons not quite clear, the Milan comune decided that it is a contaminated area. But until 8 years ago the same comune rented out the same area for events, mostly artistic’ (Così per motivi poco chiari il comune di milano ha deciso che è una zona inquinata. Ma fino a 8 anni fa lo stesso comune affittava l’area per manifestazioni, per lo più artistiche)

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41 See for instance https://www.flickr.com/groups/2728737@N20/pool/ and http://paolocognetti.blogspot.it/2015/05/la-fabbrica-del-gas.html
Remarkably enough, and probably due to a scarce experience of the area, 18% of respondents did not answer the question about negative aspects. 6% instead referred to poor architecture and/or planning, either referred specifically to the area’s industrial heritage itself or without further indication:

‘Terrible urban planning and constructions’ (Pessima progettazione urbana ed edilizia.)

‘The area’s industrial inheritance weighs upon the landscape in a stifling way. The road network is scarce and contorted: this could be an advantage if pedestrian use were developed, but not even that is happening’ (L’eredità di ex-zona industriale pesa sul paesaggio in modo opprimente. Le connessioni stradali sono poche e molto contorte: questo potrebbe essere anche un vantaggio se se ne valorizzasse la fruizione pedonale, ma anche questo non succede)

Interestingly, students interviewed in person admitted to consider the area a mere campus, distant from where they live or spend their free time, and even dangerous. They also reported that teachers warned them not to drink tap water in the campus, for fear of contamination.

As for residents’ relationships with the area’s buildings (or more precisely the older ones) are significant and many mention them as elements of their childhood’s landscape, using expressions like ‘evocative architecture’ (architettura suggestiva) or even ‘wonderful example of XXth-century industrial architecture’ (Magnifico esempio di architettura industriale novecentesca). Rather than the requalification and reuse of the buildings in the Politecnico campus, the decay of those situated in the inaccessible area was mentioned. In particular, the gasometers (some mentioned only one, the other one being smaller and less visible) were the element mentioned most often, especially in answers to the question about memories related to the Goccia (33%)42. All agree on their representing a symbol of the place, perceivable from various points both in Bovisa and Villapizzone. 28% of respondents refer to them as a significant industrial architecture item, and 21% to a role in the area’s history:

‘They say there’s an authentic history to be promoted’ (Parlano di una storia autentica da valorizzare)

‘I never saw them in person, but they’re part of the area’s history [...]’ (Non li ho mai visiti dal vivo, comunque fanno parte della storia dell’area)

‘The gasometers are a symbol of the industrial Bovisa’ (I gasometri poi sono un simbolo della Bovisa industriale)

‘When I close my eyes the gasometers are there highlighting the Alps’ arch which I can see from my home’s windows’ (Se chiudo gli occhi i gasometri sono lì a dare risalto all’arco alpino che vedo dalle finestre di casa)

33% mention the necessity of their requalification, either for potential new uses or not:

‘They are pieces of history which require maintenance’ (Trattasi di pezzi di storia che necessitato di manutenzione)

42 36% of respondents said to have no memories related to the Goccia, but a part of them at least was born elsewhere.
‘They’re part of a historical heritage that should be requalified and made available for social activities’ (Fanno parte di un patrimonio storico che dovrebbe essere riqualificato e reso disponibile per attività sociali)

When asked about the Goccia’s future, most respondents (65%) expressed themselves in favour of public domain, greenery, leisure and relaxation. 45% mention in relation to the area feelings of peace, well-being or hope:

‘It makes me feel good to think that in the neighborhood I live in there’s a lung that big and that it could be made available for the rest of the city’ (Mi fa sentire bene pensare che nel quartiere in cui vivo esiste un polmone verde così grande e che potrebbe essere reso fruibile a una parte della città)

‘I would leave the wood as it is, to make only paths and a trees museum’ (Il bosco lo lascerei intatto farei solo dei sentieri e il museo degli alberi)

30% instead say the Goccia makes them feel powerless, resigned or even sad:

‘Sad for an opportunity that hasn’t been seized’ (triste per una opportunità non sfruttata)

Although of course the survey’s sample is only partially representative of inhabitants of Bovisa and Villapizzone boroughs in particular, a few attributes sought for the Goccia stand out clearly in the answers collected: public domain, green areas, space for aggregation, leisure and cultural activities. Industrial heritage is instead mainly refered to through the buildings and in particular the gasometers. Historic, social, cultural and environmental values are thus mobilised, with some emphasis on community; in that sense, the reference to Bovisa itself as a borough but also to the whole city of Milan is remarkable. Scarce accessibility is denounced explicitly as for the northern area of the Goccia, in fact fenced off; but it seems problematic also for the campus area, which many respondents seem never to have been to, hindering both citizens’ perception and uses. Whilst decay was often mentioned, the opportunity to develop a park accessible to all, with a clear vocation of a green lung like Central Park (explicitly mentioned), which Milan strongly needs (see above, Introduction).

5.2. Professionals’ sense of place
The distinction between ‘mere’ citizens and ‘professionals’ shouldn’t be overemphasised; thus for instance also the ‘Marvy’ bar manager, although not involved in the Goccia’s management and planning, does have professional interests in the area which influence his sense of place. This section focuses on professionals who have at some point dealt with the planning and management of the Goccia, or their study. A few interviews and focus groups have been carried on, involving: prof. Alessandro Balducci of Politecnico, also deputy mayor for planning in Milan between 2015 and 2016; prof. Giuseppe Boatti (retired professor also at Politecnico), Luciana Bordin and Francesca Grazzini of Comitato La Goccia; Marika Fior and Umberto Vascelli Vallara, respectively professor at Politecnico who participated in the

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43 Citizens’ call for more green spaces and public domain is not altogether new. In 1987 a demonstration gathered thousands of people, many of whom were young, holding candles and posters reading “Tear down the old ruins and create [public] green spaces” (Abbattete i vecchi ruderi e create spazi verdi) or “We want meadows” ( Vogliamo prati). The young Maria Luisa D’Amelio had just been murdered close to the Bovisa train station, and those citizens were reacting against the dereliction of the area and other Milanese peripheries (Caputo & Fiorese, 1999).
‘Ascoltiamo Bovisa’ report (Aa.Vv., 2015) and influent member of the Milan section of the association Italia Nostra (both are also members of the Lombardy region commission for urban landscape)\textsuperscript{44}; prof. Laura Pogliani of Politecnico and architect Davide Forti, who both also participated in the ‘Ascoltiamo Bovisa’ report.\textsuperscript{45}

As reflected also by interviewees’ jobs, the main group of professionals related to the area are of course the administrative and in particular the teaching staff at Politecnico, not exclusively within the campus itself but rather among those who have been involved in its study and/or planning over the years. At the same time, the local campus, now restricted to the Engineering department, is sensibly less involved than the DaSTU (Architecture and Urban Studies), which has completely moved back to piazza Leonardo Da Vinci. Whatever, a significant number of publications and exhibitions have been dedicated to the area, notably a special issue of the Politecnico periodical \textit{Territorio} (Ballio, 2007; Infussi, Bruzzese & Cognetti, 2007, etc.), expressing the institution’s sheer interest and projects in its regard. As mentioned above, Politecnico is also largely responsible for the appellations \textit{area Gasometri} and \textit{Goccia}, which are now largely used as expressed by planning documents, and the name of Comitato La Goccia itself. It commissioned one more call for projects in 2016, also illustrated in an exhibition, after having commissioned a ‘participative’ report to some of its teaching staff, headed by prof. Gabriele Pasqui (Aa.Vv. 2015). Thus many Politecnico docents have dealt with Bovisa at some point, writing about it and/or participating in its planning and architecture.

An interviewee suggested that there is a ‘general acknowledgement’ (\textit{un generale riconoscimento}) over some heritage value of the area’s former industrial buildings, although it is less clear what such acknowledgement implies:

‘There’s an interest in terms of the image of some buildings, the gasometers are a landmark; there needs to distinguish between necessities dictated by emergency and bases for planning, which do take buildings in consideration’\textsuperscript{46}

At least during the 1990s there has been professional interest for the heritage value of the buildings themselves; in addition to the typological-morphological study mentioned above (see section 4.1), a restoration class at Politecnico was dedicated to their study, also with the ambition to attract attention on such value (Caputo & Fiorese, 1999):

‘This educational work is part of a research field aiming to explore the frontier between ‘commonplace’ buildings, soiled or impure presences which obstruct the area, and buildings and infrastructures which our culture seeks to recognise as cultural goods, as resources to pass down; in the belief that the best resource is constituted by all existing buildings and

\textsuperscript{44} See http://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioRedazionale/servizi-e-informazioni/Enti-e-Operatori/territorio/paesaggio/commissioni-regionali-per-beni-paesaggistici/commissioni-regionali-per-beni-paesaggistici

\textsuperscript{45} It has not been possible to interview engineer Mario Lagorio, executive in charge of decontamination processes within the \textit{comune}, nor Raffaele Todaro, deputy for planning and public works within the \textit{Municipio} 9, part of the Milan \textit{comune}. 

\textsuperscript{46} C’è un interesse da un certo punto di vista dell’immagine di certi edifici, i gasometri sono un landmark; bisogna distinguere tra le necessità dette dall’emergenza e le premesse dei piani, attente agli edifici. Interview with A. Balducci, 11/24/2016
infrastructures and not only by the mere ‘dismissed area’ of Bovisa, deprived of such presences.’

Although it has no official competence nor responsibility on the area, Comitato La Goccia may be considered in this section, both for the planning and architectural background of one of its main animators, prof. Giuseppe Boatti (former professor at Politecnico), and for the action it has led against the current decontamination process (see next section). The ‘committee’ was founded in 2012 as a reaction against the comune’s application to the Piano Città call for funding, on the ground that the decontamination operation projected was too invasive and did not follow the right procedures. Its action has also consisted in much civic engagement, through public meetings, collaboration with local schools and the publication of much content on their website and Facebook page, and is now recognised along with ‘Ascoltiamo Bovisa’ report as one of the main reasons for residents’ renewed interest in the Goccia’s future (and present). The Comitato’s main focus is to secure the northern area of the Goccia’s reopening to the public and maintenance as a park:

‘It has an extraordinary environmental value’ (Ha un valore ambientale straordinario)

‘A green area of more than 2000 trees inventoried by the [State] Forestry [Corps], in 1994’
(Un polmone verde di più di 2000 alberi censiti dalla forestale nel ‘94)

‘[But] architects and planners [in charge] don’t know it’s a need for life’ (gli architetti e gli urbanisti non sanno che serve per vivere)

Their position regarding the area’s industrial heritage is less clear; although they value it (as indicated also by their very logo, which reproduces the main gasometer) and consider its conservation a condition of any further development, future uses are not their priority issue -a member even considering to leave buildings invaded with vegetation, as a ‘Milanese Angkor Wat’. Although most of its members don’t live in Bovisa nor in the surrounding boroughs, the Comitato’s activity in the area seems to have been decisive to raise awareness of the Goccia’s issues and potential, and contrarily to the elaboration of the ‘Ascoltiamo Bovisa’ report is still


48 See the appeal to the Bovisa inhabitants, by which they presented themselves ‘as Bovisa inhabitants like you’: http://www.salviamoilpaesaggio.it/blog/2013/02/milano-la-goccia-che-fa-traboccare-la-bovisa/

49 http://www.parcogoccia.com/

50 https://www.facebook.com/comitatolagoccia/

51 Interview with L. Pogliani and D. Fortini, 03/02/17. Both were involved in the ‘Ascoltiamo Bovisa’ report.

52 Interview with G. Boatti, L. Bordin and F. Grazzin (members of Comitato La Goccia),12/13/16
The area Gasometri is a vast and strategic area for the city and metropolitan district of Milan. At the end of the 1980s it represented a vast resource in available land and dismissed buildings, in part publicly owned. The joint action of Politecnico and the Milan comune has been based on shared interests: the installation of a much-needed new campus for Politecnico, and a leading partner for the area Gasometri’s regeneration for the comune, which was then experimenting policies of negotiated planning in dismissed areas (see the Documento direttore per il Progetto passante and the Documento direttore per le Aree dismesse from 1984 and 1988 respectively). The general plan for a campus hasn’t changed much over ther years, while other partners have: in particular the interest of the real estate company Euromilano Spa and that of A2A, main energy supplier in Lombardy, seems to have collapsed over the last decade, due to the economic crisis but also to the lasting stasis of the dismissed part. Many plans for the area have been commissioned since the late 1980s, through commissions by the Milan comune, calls from Politecnico and private initiative like that of Euromilano Spa to OMA in 2008, showing a strong professional awareness of the area’s potential as well as economic interest. Thus all plans have in common an overall destination of the area as a campus or “science park”, with some proportion of public services. What seems to have lacked is a comprehensive analysis of Bovisa and other surrounding boroughs needs in terms of services and infrastructure (in particular accessibility to and through the area). As a
“transformation area” (ATU) within the current PGT, the area Gasometri is overall attributed the same value at similar conditions (accessibility, some public use) as former plans.

Fig. 13 Landownership of the area Gasometri today (from Aa.Vv., 2015)

6.1. The process of managing change

By the mid-1980s Politecnico di Milano thoroughly needed space, the number of students having risen from about 20,000 in 1980 to more than 30,000 in 1987. As the Goccia itself was losing its industrial activities and falling into decay, the idea to create a new campus there (in addition to the historic one in piazza Leonardo Da Vinci, which is still the Politecnico’s core) made its way and was approved in 1987 by the university’s council. Politecnico is said to have foreseen the area’s potential, and was aware of the opportunity offered by the comune’s landownership:

‘not any more as the place of ‘old ruins to pull down’, but as a territory dense with opportunities, to enhance according to its own necessities but also to reactivate and revive [...] (It offered a vast surface in a strategic urban area, owned for a large part by the comune’ (Ballio, 2007).\textsuperscript{56}

The lasting partnership between the comune’s planning authorities and Politecnico initiated right away, with the commission to the university’s competent departments of a study in order to elaborate a variance area for the Goccia, approved in 1988; the comune also progressively ceded property for the development of the new campus. As already mentioned the latter settled in the Goccia itself but also in other areas in Bovisa. While the local

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\textsuperscript{56}...non più come il luogo dei ‘vecchi ruderi da abbattere’, ma come un territorio denso di opportunità, da sfruttare per le proprie necessità ma, allo stesso tempo, da riattivare e rivitalizzare [...] offriva una superficie ampi a in una zona urbana strategica e in gran parte di proprietà del Comune (p. 9). Giulio Ballio was dean of Politecnico from 2002 to 2010.
government was undergoing thorough change due to the direct election of mayors (1993) and to the outcry of the judiciary operation *Mani pulite* (‘Clean hands’) which hit public administrations -and did not spare Milan-, Politecnico had in a few years’ time affirmed itself as a significant actor of urban transformation (Balducci, 2007; Bruzzese, Cognetti, 2013).

By the mid-1990s an acceleration was sought for and an important agreement (*Accordo di Programma*) was signed in 1997 between the Milan comune, the Lombardy Region and Politecnico itself, with the subscription of another key landlord, the main local energy supplier AEM (now A2A). This basically settled these stakeholders’ interests and duties, and foresaw the completion of the new campus along with a new library, the realisation of AEM’s operative center, a public park, and works allowing better access to and within the area (roads, railways and pedestrian) (Bruzzese, 2007). Politecnico concurrently launched a call for master plan projects for the northern part of the area, among which the finalists were exhibited in occasion of the Triennale of the same year (Caputo & Fiorese, 1997), and was attributed substantial funding from the *Ministero dell’Università e della Ricerca*. But while the exclusion of Politecnico teaching staff from participation to the call created some hostility, other stakeholders failed to fulfill their parts of the agreement, in particular regarding decontamination operations which the comune was entitled to but appeared still heavier than expected. The ex-aequo awarded projects, presented by Ishimoto Architectural & Engineering Firm and a group of firms led by Serete Italia Spa, which included also the realisation of a ‘Museum of the Present’ (*Museo del Presente*), were thus soon abandoned (Bruzzese, 2007).

A year after Politecnico acquired 100.000m² in the northern area and the *comune’s* decontamination plan was approved, the same area was classified as SIN in 2001, which entitled the State exclusively to decontamination operations (see above, section 3). Such operations never began, and with estimated decontamination costs rising critically the situation was more blocked than ever, although 10 billion lire were attributed at the time, of which amount only a part is still available today (Balducci, 2007; Pogliani, 2014).

From 2002, a revision of the 1997 agreement was carried on by Politecnico, toward a deeper reflection on the university’s role within its urban context (Balducci, 2007), and in spatial terms a redevelopment concentrated in the area situated between the existing campus and the gasometers; a master plan for the northern part of the Goccia, elaborated internally and entitled ‘Science park and city for the youth in Bovisa’ (*Parco scientifico e città per i giovani a Bovisa*) was approved and presented publicly in 2006, while a memorandum of understanding was signed between the university and the *comune*. The Bovisa campus was then foreseen to become equivalent in terms of space and students to that of Politecnico headquarters in the more central piazza Leonardo Da Vinci (200.000m² and 20.000 students for the former against 180.000m² and 18.000 students for the latter) (Bruzzese, 2007; Infussi, Bruzzese & Cognetti, 2007); but those objectives set aside, the master plan was designed to address change in the area, rather than to configure its development rigidly, and sought more articulation and integration with its urban context (Balducci, 2007; Fortis, 2007; Infussi, 2007). Parallely, resources for decontamination were planned to be earned from private housing development in the area (Donato, 2007). Thus it allowed Euromilano, a real estate
society involved in a housing development close to the Goccia (PRU Palizzi) and had an interest in Politecnico’s expansion, to cede land to Politecnico and assumed its decontamination costs, also in the perspective of future development opportunities elsewhere in the Goccia (Balducci, 2007).

But the housing development market, which had expanded since 1997, was reaching a stasis, as much as the prospect of further decontamination in the Goccia’s northern area. After it commissioned on its own initiative a rather bold Master plan to OMA in 2007 (presented the following year)\footnote{See http://oma.eu/projects/bovisa-masterplan}, Euromilano’s interest wavered while the outcry of the international economic crisis hit the firm’s ressources, as well as those of Politecnico and of the Milan comune (Pogliani, 2014). The new campus buildings were thus delivered much later than expected – the library was inaugurated in 2016.\footnote{See http://milano.corriere.it/notizie/cronaca/16_novembre_28/politecnico-nuova-sede-bovisa-ospite-cerimonia-ceo-descalzi-eni-fe3fef62-b59f-11e6-a2c1-e1ab33bf33ae.shtml} In this context, the area’s industrial heritage and the very buildings still standing in the northern part of the Goccia were anything but a priority, and are for instance seldom referred to in the special issue dedicated to the Master plan by the Politecnico periodical Territorio (Infussi et al., 2007, etc.).

Under pressure from both Politecnico and the comune, the site was successively (2013) ‘declassified’ as Sito d’Interesse Regionale, which enabled the comune to lead decontamination operations. The main issue thus became the financing of such operations, then estimated 20.000.000€. Meanwhile, Politecnico and the comune agreed to sell building areas of no use for the campus to generate the necessary resources. Such policy failed, but the 2012 Piano Città (see above, section 2) came of help: through a call for financing urban regeneration projects, the Italian government provided 5.000.000€. The National Association of Italian Municipalities (Associazione Nazionale Comuni Italiani, ANCI), in charge of the selection according to the procedures set in the Piano Città decree, retained only that one among the three projects submitted by the Milan comune, and valued it is ‘highly prioritary’.

Here again, though, operations haven’t started yet. A new actor had made its way, the Comitato La Goccia, born as a reaction of a few citizens against the very decontamination operations planned by the comune. On the ground that the comune had not produced the compulsory preliminary hazard analysis (analisi di rischio), the association appealed to the Ministry of Environment, which received it and caused the works just initiated to stop. Contemporaneously, the Comitato criticised Politecnico and the comune over the lack of public participation in the area’s planning.\footnote{The Comitato regularly publishes updates on the situation on its website, see http://www.parcogoccia.com/2017/06/aggiornamenti/} Politecnico reacted by the commission of the ‘Ascoltiamo Bovisa’ report, which offers recommendations also in consideration of interviews and focus groups it carried on (Aa.Vv., 2015).

Now that a State superior council (Consiglio di Stato) has received the comune’s appeal after the latter handed over the decontamination plan’s documents including the hazard analysis, works should soon resume; but it is not clear whether the Ascoltiamo Bovisa report’s conclusions will have an impact on upcoming operations. Meanwhile, the transfer of the
architecture department (DASTU) from via Durando in Bovisa to the main campus piazza Leonardo in early 2016, be it only due to the high rent paid by the university for the Bovisa facilities (Politecnico di Milano, 2015), shows further re-evaluation of its presence in the area, although the new dean Ferruccio Resta (elected in November 2016) confirmed his interest in the campus’ further development within a regenerated urban context.60

6.2. The reasoning in consideration of managing change (all criteria)

The Goccia has been since the late 1980s considered by Politecnico an opportunity for a much needed extension and improvement of its facilities, in an urban area that could benefit from its settlement -but was also among the few available for such development in the Milan area (Ballio, 2007). As summed up by former dean Giulio Ballio, Politecnico has been driving change in Bovisa and particularly in the Goccia,

‘from an industrial landscape in ruins from a science and technology park’61 (Ballio, 2007).

The project to settle a science & technology park within the campus aimed at giving Politecnico a key advantage in the competition between universities; similarly, it would position Milan among the few Italian cities to count one (Serazzi, 2007), and support the services economy which had expanded in Milan after the industrial crisis (Balducci, 2007). With the knowledge economy as the key to local development, as expressed by the title ‘city of science and for the youth’, Politecnico has also been seeking to have at least part of the Bovisa campus’ students to stay in the area, and to foster new functions, including in particular cultural and creative activities. This was also motivated by the perspective of the Milanese population’s ageing (Infussi et al., 2007; Cognetti, 2007).

The necessity of decontamination in most of the area has been a key factor in approaches to its planning. As the understanding of its costs and modes evolved, plans expressed sensibly different ways to deal with it: thus the 2006 Master plan foresaw ‘wooded strips’ in order to enable differentiated decontamination processes (lighter in green areas) and concentrate costs (Bruzzese, 2007). In this regard, the area’s industrial buildings seem instead to have been considered at best like an input, rather than a basis, for its planning; the main issue is the maintenance of their architectural features, rather than a more comprehensive evaluation within their context. This is quite clear in one of the few paragraphs mentioning them within the Territorio special issue:

‘...they would be assigned other uses, while maintaining the architectural characteristics which recall the area’s industrial origin, along with the gasometers.’ (Bruzzese, 2007b).62

Thus only do the gasometers assume a more relevant role, but functional rather to Politecnico than to the area itself,

60 See for instance http://www.ilgiorno.it/milano/cronaca/ferruccio-resta-politecnico-1.2687341
61 ...da paesaggio industriale in rovina a polo della conoscenza e della tecnologia. (p. 10)
62 ...destinandoli ad altro scopo, pur mantenendone le caratteristiche architettoniche che richiamano la memoria dell’origine industriale dell’area al pari dei gasometri. (p. 49)
‘as elements able to characterise the Politecnico’s areas.’ (ibid.)

During the 1990s at least, Politecnico’s direction was toward a change of use in the area that would maintain its aspect and general structure, while providing new connections with the surroundings boroughs (Caputo & Fiorese, 1999). Thus the 2006 master plan, in the words of A. Balducci,

‘should be able to interpret [the area’s] memory looking at the sense of inheritance which the borough transmits, in addition to its very buildings.’ (Balducci, 2007)

More recently awareness over a more articulate heritage value, which along with the buildings recognise in general traces of the area’s industrial past, thus seems to have risen, both among Politecnico faculty and civil society, as expressed for example in this phrase from Ascoltiamo Bovisa report’s presentation:

‘Some of the buildings existing today carry a historic value in terms of both identity and testimony (although no one is listed), so that administrative decisions plan their conservation.’

In Comitato La Goccia’s view, the impossibility of the various redevelopment plans for the same area, due to the lack of resources and governance issues, has safeguarded it from eventual cancellation of its heritage and overbuilding, and from an exclusive grasp in Politecnico’s hands (‘Politecnico’s own private garden’). But as expressed by the inventory of dismissed buildings and areas in Bovisa its members carried on, the Comitato is interested in its regeneration, which regarding more specifically the northern part of the Goccia should pass by a non-invasive requalification as a green area, to form a Milanese ‘Central Park’ along with the former Farini rail yard to the south. Here again, professionals’ view on the Goccia’s potential as a park is not altogether new: the influence of the proposal for the realisation of nine parks in Milan, elaborated by several Politecnico professors and presented at the 1995 Triennale, was perceivable (Arcidiacono & Pogliani 2011; Caputo & Fiorese, 1999).
7. Conclusion: The consequences of planning reform and physical changes for the tangible and intangible cultural heritage, and the sense of place

i) How is the governance and planning of the historic urban landscape changing and why?

The leading role of Politecnico di Milano, which from the need of space and more facilities affirmed itself as the leading actor of change in such a strategic area as Bovisa, is now at stake. Having progressively become the main landlord, it was eventually confronted with civic activism, which the ‘active listening’ work it carried on (AaVv., 2014) seems to have further enhanced. A significant part of Bovisa (and surrounding areas) citizens now want to have a say in the Goccia’s regeneration process, and might have different ideas than the Politecnico’s.

The erratic planning process for the Goccia has been attributed to a scarce management model, and the lack of an independent directive body and innovative tools, which would have enabled more efficient collaboration between stakeholders and a better articulation between realisation phases (Schiaffonetti, 2007). More generally, it exemplifies a tendency in Milanese policy and planning (or the lack of) to approach urban areas singularly and according to investment logic as ‘operations’ involving private actors, in spite of a more systematic and articulate design of the whole city (Arcidiacono & Pogliani, 2011; Donato, 2007). Only does the ATU (local plan within the PGT) emphasises the necessity of reconnecting the area with the surrounding boroughs.

ii) How are relationships between the physical built environment and the intangible cultural heritage considered in the governance of urban heritage?

The Goccia was identified by Politecnico as a decisive opportunity for its expansion in terms of available urban space, and its requalification as a campus and more or less related activities (first of which the Istituto Mario Negri) was supported by the comune, interested in the reurbanisation of an vast dismissed area. As a planning and architecture faculty, and at a time when the requalification of dismissed areas was becoming common practice in Milan as elsewhere, Politecnico was also keen on realising an exemplary operation in that sense. But it seems that the difficulties that arose had caused a relative fall in Politecnico’s interest in the area’s heritage, perceivable between the respective publications dedicated to the 1997 call

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71 From http://www.parcogoccia.com/#
for projects (Caputo & Fiorese, 1997) and the 2007 Master plan (Infussi, Bruzzese & Cognetti, 2007; etc.). In any case, such interest was essentially architectural, as the ‘characterising’ value attributed to the gasometers in the 2006 master plan (Bruzzese, 2007b). As for the whole Goccia, it sometimes seems that Politecnico, indeed the main landlord and developing actor, considers it its own domain, valuing rather its (eventual) availability to development than its heritage, as denounced by Comitato La Goccia.

Intangible cultural heritage linked to the industry is instead little considered and lays in popular culture and memory (Borra, 2006; Foot, 2007), eventually gathered by researchers and/or artists. A new popular culture seems to arise though, mainly in cultural associations and on Bovisa’s walls; the gasometers reflected in graffiti and the emphasis on periphery as a liveable –even though neglected- environment are key elements of it (Cognetti, 2007c; Pellegrini & Mongelli, 2016). Considering former workers’ ageing and the drastic change in use of the Goccia, continuity in intangible heritage rather lays in the image of the Goccia’s built environment.

iii) What is citizens’ perception of sense of place? What factors contribute to their sense of place and do they recognise any changes in the historic environment that affect sense of place?

The category of ‘citizens’ should be considered carefully in the case of the Goccia. It includes ‘old’ inhabitants (former workers or not) and newcomers (from others parts of Milan, Italy or the world), more or less temporary users (mainly related to Politecnico); all may reside in Bovisa but also in Villapizzone and other Milanese boroughs (Foot, 2007; Cognetti, 2007c). In this context, heritage itself, and industrial heritage especially, cannot be easily defined, and thus conserved and promoted.

Much as happened when the Goccia was an industrial area, citizens who don’t work there still keep their distances; but the factories employed many more ‘locals’ than Politecnico or Istituto Mario Negri do, and (retired) workers, who incarnate the living memory of the industrial Goccia, have been virtually excluded from the area unless they are among its few inhabitants. Furthermore, the northern area’s closure for more than twenty years has almost completely severed citizens use and even awareness of it. In this context, sense of place is sensibly fragile.

The borough has been considered a laboratory of urban transformation, at various scales and according to various rhythms (Cognetti, 2007c): in the end, the slow regeneration process of the Goccia might have fostered a renewed sense of place, aware of the Politecnico’s role but also of the area’s potential. Although the need for public space and green areas had already been expressed over the years, the ‘Ascoltiamo Bovisa’ report and Comitato La Goccia’s commitment have definitively confirmed its vocation as a park, it last for a significant part of it. Thus if Bovisa has definitively lost its rural dimension (Foot, 2007), its fate might well be that of a rare green area in the vast metropolitan Milan.

iv) How best can policy makers and other stakeholders take account of place identity/sense of place in the management and planning of the historic urban landscape?
Politecnico, along with the *comune*, has recently carried on a remarkable civic engagement operation, which has confirmed -to an unexpected extent- citizens’ interest in Bovisa’s future as a public green area including former industrial buildings; a key issue to resolve urgently is that of the area’s accessibility, both in terms of public transport and personal mobility (Aa.Vv., 2015). As much as citizens involved, it has given industrial built heritage a rather marginal role, opposite to academic interest in its regard during the 1980s and 1990s. Rather than the mere conservation and use of the gasometers as the area’s landmarks, Politecnico could further enhance sense of place and a consequent integration of its campus by promoting public space in the Goccia -and not only in the *lotto 1*.

Instead, when its northern part can finally be regenerated, attributing too much space and volume to its facilities, or leaving too much margin to housing development, may further unbalance Bovisa’s built environment and social fabric and raise hostility. While citizens’ ideas on future infrastructures and specific uses within the park vary (Aa.Vv., 2015), there is definitely space for dismissed industrial buildings in the Goccia, which could provide suitable premises for public services and local associations, or for Politecnico itself.

In more general terms, there still lacks a shared planning and management culture aware both of industrial heritage’s values and of the opportunity offered by civic engagement. Conferences organised by AIPAI and other associations and institutions are a step in that direction, but local authorities’ and actors’ commitment might be even more decisive, as illustrated by the case of the Goccia.

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