

# SMART NETWORKS

## Urban Development

Constructs vital synergies between urban systems and networks

**Tractebel** is a worldwide multidisciplinary engineering, consultancy and design firm working on a wide range of projects in geographies around the world. Every day our teams of engineers, consultants and designers feel the need for a more sustainable urban development to build a better world for all, today and in the future. Therefore we developed together 11 integrated approaches for cities and territories; they represent the needs and interests of cities and citizens and aim to provide solutions to key global challenges.

### why?

A city is made up of different infrastructures, a system of systems. **Current infrastructure elements typically operate in a mono-dimensional way**, solving separate issues related to specific topics (water, waste, mobility). This old approach is challenged by issues cities are now experiencing due to unprecedented urbanization, the effects of climate change, scarcity of resources and energy transition. Over the last few decades these challenges have become the driver for an increasing cultural and environmental interest in networks, leading to more and more integrated solutions for infrastructural projects. There is an urgent need for new ways to ensure the optimal use of the current resources, improve system and network performance and bring more innovative and culturally robust solutions.

### what?

Smart Networks is based on **a system of integrated multifunctional devices dealing with the metabolism of the city: the interaction of the rich and diverse flows of the city: people, waste, water, energy, goods, animals, plants, air**. Using **technology and design as an enabler**, Smart Networks use data and space intelligently to ensure the best use of resources, to boost performance and to tangibly improve the way people live, work, move and play in cities. Smart Networks integrates different disciplines to design, foresee and exploit new or unexpected synergies. For example, Smart Networks **combines mobility with climate adaptation, sewage water collection with energy production, rainwater harvesting with drink water supply, parking places with food production, new infrastructures with new landscapes**.



**Missing link A11, Brugge-Knokke**

The realisation of the Missing Link A11 creates a new landscape with smart connections between non-motorised traffic and ecological corridors. A sensible intervention towards the impact on the landscape and the manifold environmental aspects.



**Brabantnet, Woluwe-Diegem**

Brabantnet is the realisation of 45 km of new public transport network in the Flemish Periphery around Brussels. From an integrated approach a high quality project is developed, integrating mobility, public space design and landscape interventions.



**Green H2, Chile**

Design of an autonomous 100% renewable Energy system for the north part of Chile at 2030 horizon and identification of associated business opportunities. Forecasting of grid reinforcements and assessment of project costs.



**North South Kempen, Geel**

The Missing Link North South Kempen achieves better accessibility in the region by realizing a new connecting road between Kasterlee and Geel and redesigning the Geel-West connection complex.

10 other integrated approaches to discover

- Urban Resilience
- Productive Landscapes
- Places of Mobility
- Water Urbanism
- Eco-Districts
- Recycling Territories
- Territorial Transitions
- Civic Architecture
- Sustainability @Work
- Digital Urban Solutions