

Paper 175 – Seine-Scheldt, a new gateway to Europe

BOUR, Nicolas

Voies navigables de France (French Inland waterways Manager), Béthune, France

nicolas.bour@vnf.fr

ABSTRACT: The inclusion of the Seine-Scheldt link as a priority project within the North Sea-Mediterranean corridor in October 2013 firmly establishes the waterway as a sustainable answer to meet the challenges of bulk transport and reduce the congestion of major European consumption and production areas, thus supporting the domestic economy and trade of Europe, as well as those of the rest of the world through the major seaports. The recent EU decision to finance 980M€ for Seine-Scheldt during the 2014-2020 period recognize this role and open the door to its implementation, alongside rail and road transport, at the heart of Europe’s network of multimodal corridors. With the beginning of the construction of Seine-Nord Europe in 2017, and initial operations in 2023, transport, logistic and industrial stakeholders will also play a key role for efficient and sustainable mobility in Europe in the development of the Seine-Scheldt transport system.

1 MULTIMODAL CORRIDORS

The recent approach of European Union in transport policy aims at a better use of existing infrastructures for each mode of transport within the European core network to be completed by 2030. Nine "Core network corridors" were introduced to facilitate the coordinated implementation of the core network. They bring together public and private financial resources and concentrate EU support from the Connecting Europe Facility (CEF), a 26 billion €, financial plan for the 2014-2020 period, particularly to remove bottlenecks, build missing cross-border connections and promote modal integration and interoperability.

Within these nine corridors, the North Sea-Mediterranean Corridor stretches from Ireland and the north of UK through the Netherlands, Belgium and Luxembourg to the Mediterranean Sea in the south of France. This multimodal corridor, including inland waterways in Benelux and France, not only aims at offering better multimodal services between the North Sea ports, the Maas, Rhine, Scheldt, Seine, Saone and Rhone river basins and the ports of Fos-sur-Mer and Marseille, but also better interconnecting the British Isles with continental Europe. It links to several multimodal European corridors: the Atlantic corridor, the North Sea-Baltic corridor and the Rhine-Alpine Corridor. Main countries involved are France, Belgium and the Netherlands, as well as Germany, the UK, Luxembourg, the Baltic States and the Danube countries.

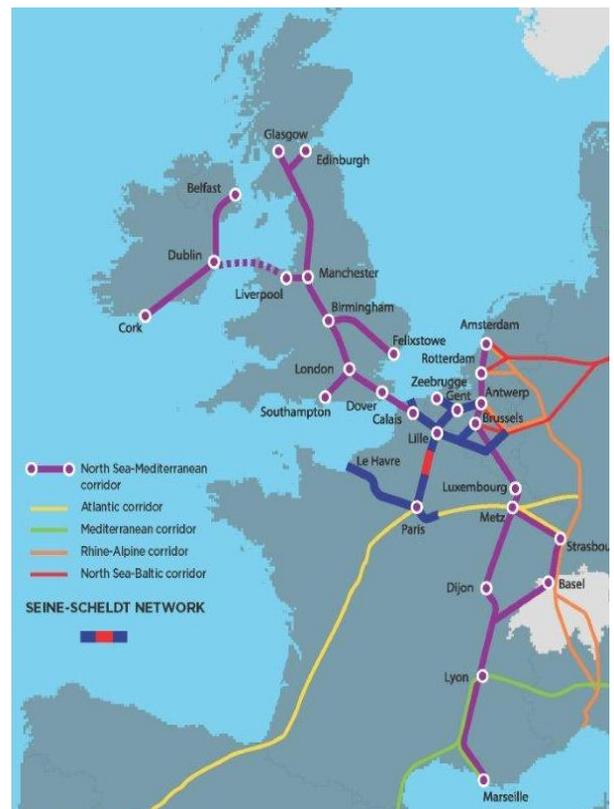


Figure 1: Connection of Seine-Scheldt inland waterways to European multimodal corridors

Within these corridors, the Seine-Scheldt link will implement the multimodal potential of waterways for logistics (European distribution centers) and urban distribution, based on development of circular economy and energy transition policies.

2. SEINE-SCHELDT Waterway

The Seine-Scheldt waterway is a key project for the implementation of the North Sea-Mediterranean multimodal corridor, and was defined in a joint declaration between the European Commission, the Walloon region, Flanders, the Netherlands and France on 17 October 2013 in Tallinn.

2.1 Geographical perimeter of Seine-Scheldt

In terms of inland waterways, it encompasses the waterway network composed of the river Mass, the canal between Ghent and Terneuzen, the canal between Bocholt and Herentals, the locks located on the connection between the Seine and the Scheldt as well as the Upper-Scheldt, the Roulers-Lys and Bossuyt-Courtrai canals and the links to the ports of Antwerp and Zeebrugge, the Seine-Nord Europe canal, the Dunkirk-Valenciennes and Lille-Douai links, the Seine from Le Havre to Nogent-sur-Seine, the canal between Antwerp-Brussels and Charleroi, the inland waterways in Wallonia as well as the connection points with the other transport modes including the multimodal platforms and the inland waterway links with the seaports of Le Havre, Rouen, Dunkirk, Ghent, Antwerp and Zeebrugge.



2.2 Key issues of Seine-Scheldt

The main issue identified on the North Sea-Mediterranean corridor is the existing class II connection (Canal du Nord) between the class Vb Seine and Oise basin and the network of the Nord-Pas-de-Calais and the Benelux region, which are Va+ and Vb gauge waterways respectively. Completion of the Seine-Nord Europe canal will improve substantially the performance of the existing northern and southern networks.

2.3 Main objectives of the new link

The following are the objectives of the Seine-Scheldt inland waterway link:

- increasing reliability of the services and developing existing network in order to encourage a modal shift;
- increasing the gauge of the network to develop the hinterland of the seaports by improving or creating multimodal platforms and container terminals with a regional, national and European scope;
- remove a bottleneck on the large-gauge European waterway network;
- encouraging the ecology and energy transitions by reducing the transport sector's consumption of energy through the development and use of renewable energies (biomass, wind power, solar power, aso);
- optimising water management by improving flood control, and water supply to the urban areas;
- guaranteeing sustainable growth for waterborne transport in Europe;
- increasing industrial performance of logistical systems and industrial sectors (agriculture and food industry, construction materials, chemicals, automotive, etc.), and developing a high-performance and economical logistical system for the circular economy (recycling of materials, steel, glass, paper, car industry, etc.);
- stimulating innovation in inland waterway sector (ships and transshipment), in port logistics, particularly with the emergence of combined waterway/railway services;
- encouraging investment from French, Belgian, European and international businesses operating alongside inland waterways on a new industrial corridor between Grand Bassin Parisien (Greater Paris region), Nord-Pas-de-Calais region, Benelux and Europe;
- contributing to the development strategies of the shipment consolidation modes of the seaports and inland waterway ports of the North Sea-Mediterranean corridor;
- developing capacities to transport freight to the very heart of major urban areas and conurbations;
- improving the integration of Paris basin and Haute Normandie region within the European economy;
- freeing up road traffic in the north-west quarter of France and Belgium (Paris, Lille, Brussels, Antwerp, etc.);
- contributing to the deployment of an urban logistical system based on the river for the major urban areas of the corridor;
- improving safety for users of waterway transport systems by offering safe navigation capacities;
- improving the touristic potential of waterways.

3. SEINE-NORD EUROPE DESIGN

The Seine-Nord Europe Canal is the central section of the Seine-Scheldt waterway link. It will connect Oise river (at Compiègne) to the Dunkirk-Scheldt canal (at Aubencheul-au-Bac, near Cambrai). Its goal is to create a new high-capacity section between the Seine network and European large gauge network. The expected transport of goods (bulk and containers) by 2030 is 15 MT.

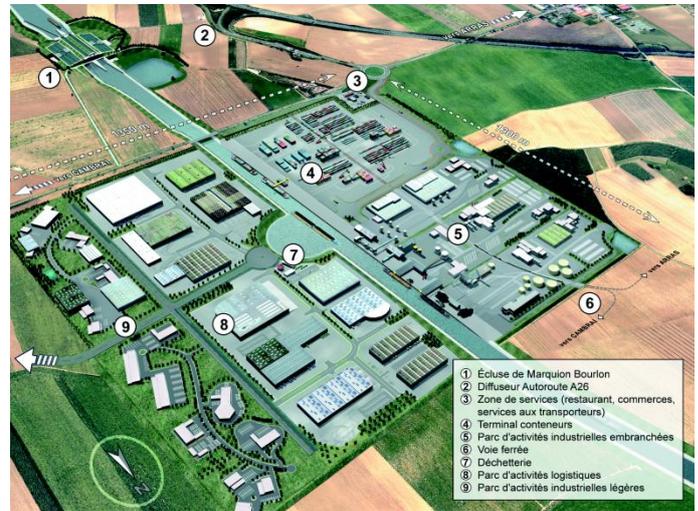
The Seine-Nord Europe Canal is more than an infrastructure, and is designed as a comprehensive transport system and a regional development project within the North-Mediterranean corridor.



Covering a total land area of 2,450 ha (facilities included), the 107 km long-, 54 m wide- and 4.5 m deep-canal will run from Compiègne to Aubencheul-au-Bac. It will include 6 locks, 61 road- and railway-bridges, 3 aqueducts and 1 storage reservoir. It is also planned to build 4 multimodal platforms, 5 grain quays, 2 transshipment quays and 5 boat moorings.

Key construction issues for the project will be the construction of the 5 high level locks (15 to 25 m), the 1300 m long-canal bridge on Somme river and landscape integration of the canal, particularly the higher section between Allaines and Marquion. Construction of these 4 multimodal platforms, covering a total area of 360 ha, is intended to

provide multimodal transport services (regular river shuttles running to and from seaports, rail shuttles) and attractive areas for setting up value-creating industries or logistics activities.

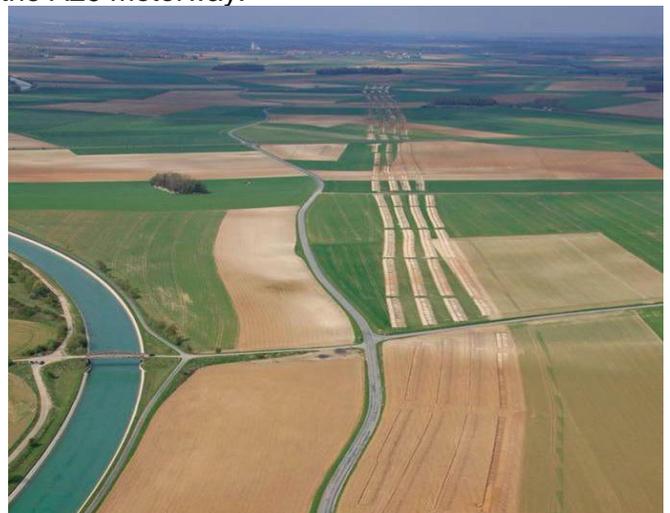


Platforms sites were chosen based on complementary transport modes already offered by existing infrastructure (rail at Marquion and Nesle, motorways at Marquion, Péronne, and Noyon). Such logistics platforms will represent new sources of growth, economic development and job creation.

4. PROGRESS OF WORKS IN FRANCE

4.1 Key decisions

Following Public debate in 1993 and preliminary studies in 1997-1998 of Seine-Nord Europe canal, upgrading works started in 2000 on the northern and southern sections of Seine-Scheldt link. In December 2003 the decision to implement the central section led to the realization of the outline design of Seine-Nord Europe leading to the declaration of public utility in September 2008. Preliminary works started in 2009 with land acquisition, archeological surveys and diversion of the A29 motorway.





France commitment to the European Seine-Scheldt action was confirmed by the Deputy Transport Minister on 17 October 2013 in Tallinn. The French Prime Minister revealed on 26 September 2014 at Arras the objective to start works by 2017 and start operations on Seine-Nord Europe canal by 2023.

4.2 Progress of works on upstream and downstream sections of Seine-Nord Europe

In France, work has already begun to the north and south of the Seine-Nord Europe canal since 2000 to ensure the compatibility and continuity of the future Seine-Scheldt link. To the north, the bridges have been raised to provide a vertical clearance of 5.25 m, the Scheldt has been resized to take 3000 tonne-ships, significant resizing works have begun on the Deûle river to upgrade it for 3000 tonne-ships and preliminary works have been completed on the Condé-Pommeroeul canal, resizing of Lys river and construction of the Quesnoy-sur-Deûle lock. Seven of the Oise's weirs and locks were rebuilt between 2000 and 2012 within the interregional development programme of Oise river.



Works done to modernize and improve the reliability Notre-Dame-de-la-Garenne and Amfreville locks have been undertaken in the Seine downstream between 2007 and 2013, and the Chatou weir was rebuilt (commissioned in 2013). On the Seine upstream, the Coudray weir was rebuilt and commissioned in 2012, the reconstruction works of the Vives Eaux weir started (to be commissioned in 2017) and works to modernize and improve the reliability of locks were carried out at Coudray, Vives Eaux, La Cave, Varennes and Evry, where they are still ongoing.

This main commitment during the TEN-T 2007-2013 financial plan (studies and preliminary works) and the present European financial plan MIE 2014-2020 (completion of studies and works) is related to the realization of the Seine-Nord Europe (SNE) canal.

4.3 Progress of works on Seine-Nord Europe Canal

Studies and preliminary works performed between 2004 and 2015 (preliminary design, surveys, land acquisition, technical competitive dialogue, preliminary works) and corresponding investment (235 million € spent for Seine-Nord Europe) upgraded the project maturity. Consequently, the European Commission decided in July 2015 to finance 980 million € for Seine-Scheldt, for the 2014-2020 financing period, with a level of 50% financing for the studies and 40% financing for the works, the larger part for Seine-Nord Europe

The preliminary design and socio-economic studies were approved in 2006 and led in September 2008 to the decree of public utility of the project, which requires to start the outline design and construction phases of the project.

The agreements for land acquisition and occupation were signed in September 2008, allowing thus to start the land acquisition (2,200 ha by 2014), the archeological surveys and preliminary works (lowering of the A29 motorway).



As a consequence of the financial and economic crisis, the public-private partnership procedure initiated in May 2011 was suspended in July 2012. The project was thus reengineered, based on the 15 month long-technical dialogue with the bidders. Such optimization led to a 10%-reduction of the capital cost and 20%-reduction of the operating costs by lowering by 17 meters the higher section of

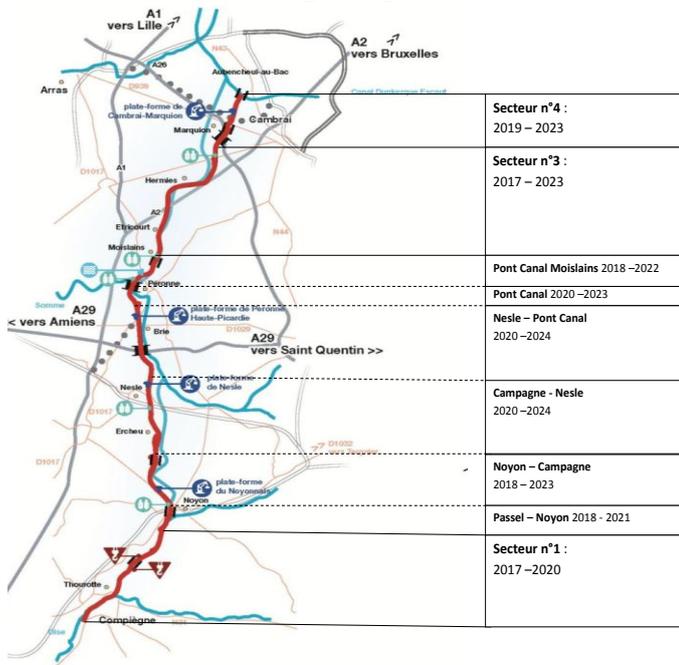


the canal and suppressing 1 high level lock, reducing thus the height of the other high level lock and optimizing the reservoir basins. On this basis and following the recommendations of a mission entrusted to the member of Parliament for the Nord region: Rémi Pauvros, the government decided in December 2013 to undertake the project as a public works owner project, including the creation of a dedicated “Project Company” associating the French State, Voies navigables de France (VNF) and local authorities participating to the financing of the Seine-Nord Europe canal.

Within this framework, VNF completed an amendment of the outline design in November 2014, which was approved in February 2015, to modify the decree of public utility on this section. Following a local consultation in 2014-2015, the public enquiry on this section will be carried out in the autumn of 2015.

A European procurement process took place from June 2014 to February 2015 to award a Technical Assistance contract covering the 2015-2027 period for the programme, design, construction and commissioning phases of the project.

This contract was awarded on June 2015 to the European group SETEC(FR)/Royal Haskoning(NL), with the objective to award the Engineers contract on the first sections beginning 2016.



It is expected that specific works of the 4 sections will be contracted under a Design&Construct approach to optimize globally, technically and financially the design criteria, operational performance and construction methods.

5. CONCLUSION

The governance organization at European and national levels is a key issue to implement a cross border project that aims at substantially improving the European inland waterway network capacity and multimodal services.

The intergovernmental commission between France, Flanders and the Walloon region was created in September 2009, and a European economic interest grouping was set up, at its request, in March 2010 between Voies navigables de France (manager), Waterwegen & Zeekanaal (Flanders) and the Public Services of Wallonia, in order to coordinate the procedures, calendar, financing of the project and its implementation as part of the different operations of Seine-Scheldt .

With the construction of an efficient network of multimodal inland ports, Seine-Scheldt waterway support the intensification and greater efficiency of commercial exchanges between Europe and the rest of the world (25% of international exchanges) and within Europe (28% of international exchanges).

By creating a new multimodal gateway to Europe, Seine-Scheldt system will contribute to improve exchanges with Asia, Middle East and North America, and promote the growth and redistribution of logistics activity in Europe through the adoption of a multimodal approach that combines all concentrated-volume transport modes (sea, waterway and rail) and road transport for more local services.

At international level, and following the implementation in 2004 of the scientific and technical committee with PIANC members, next phases of the development of the waterway infrastructure will continue to mobilize expertise and good practice for IWT projects, develop standards for shipping industry, inc. alternative fuels, develop multimodal approach, inc. River/Sea/River transport, identify cooperation and investment interests, contribute to definition of IWT climate strategy, development of multimodal offers to/from Europe.

REFERENCES

1. PIANC On Course Number 132 July 2008 special issue on the Seine-Nord project
2. InCom report 106-2009 Innovations in navigation lock design
3. B. DELEU (VNF, France) (2009) THE LOCKS OF THE SEINE NORD EUROPE CANAL
4. SEINE-NORD EUROPE CANAL : CENTRAL SEGMENT OF THE SEINE-SCHELD T WATERWAY LINK by N.Bour and B.Deleu PIANC MMX Congress Liverpool 2010
5. InCom report 129-2013
6. InCom report 151-2014
- InCom report 155-2015