



Kovács, I. V. **Iron ore export through the Tubarão Port, Brazil.** Final Integrated Project Work. School of Port Engineering, Faculty of Engineering Sciences, Buenos Aires University, 2016.

The importance of international trade in modern economies is unquestionable. There is a big variety of products that determine the human civilization's development and among these products we can find the different ores with metal content. Without metals the modern civilization would not exist, neither could we speak about its sustainability. In order to mining products arrive from their origin site to the destination site they must be transported along a commercial route.

One of the links of this commercial route is the port. The modern port of nowadays is no longer considered as a simple and independent element of the maritime trade activity, on the contrary, ports part in the complete logistic chains. According to its extended role, in the introduction of the study it is shown briefly the iron ore transportation process from the Brazilian mines of the state of *Minas Gerais* up until the loading of seagoing ships.

A description can be found about the elements of the system along this logistic

chain. After describing the transportation method of the mining products, the study focuses exclusively on port activity. Complying with the requirements of a Final Integrated Project Work, this port activity is shown in details through the example of the Tubarão Port in Brazil. The analysis is a multidiscipline analysis according to the engineering sciences, applied during the courses of the School of Port Engineering of the Buenos Aires University.

The reader arrives in this way to the port engineering field which in the study includes the representation of port facilities and structures, maritime physical environment, access channel, dredging works, possible environmental impacts in the sector of *Espirito Santo* Bay, as well as, the system of aids to navigation.

Highlighting some areas, sample calculations are available to the reader about the navigation channel's dimensions, port structures, breakwaters, dredging works, elements of AtoN, and the stormwater management of the iron ore stockyard.