Introduction: How to conceive a European digital union?

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Upon appointment in 2014, the European Commission headed by Jean-Claude Juncker announced its intention to create a Digital Single Market. This program has taken shape fast, covering a whole new field ranging from intellectual property rights through innovation and consumers' rights to the infrastructure. An innovative organization was adopted to measure up to this program's ambitions.

In this issue, Andrus Ansip (the vice-president in charge of coordinating the work of the commissioners assigned to the program) and Günther Oettinger (European Commissioner on the Digital Economy and Society) present this program's major axes. They thus highlight the crucial importance for our economic, social and cultural future of the laborious discussions that, now under way (and for several years to come) throughout Europe, have an echo in this special issue of *Annales des Mines*. We would like to thank the journal for this opportunity.¹

Although the method is innovative, the objective might be surprising and attractive given its global nature. Upon thought however, there is no surprise since it responds to a necessity.

The Internet's heroic era, pioneering and evangelistic, is over. The English-speaking press now often writes "internet" without a capital, a symbol of this shift. A new age of digital technology has arrived, its advent characterized by ruptures in our patterns of thought and action, public as well as private:

- While the global growth of markets is still strong in the world, it is now a single digit (about 9% in 2015) and will quite likely remain so for a long time to come.
- This growth results from emerging countries, more than half of it due to India and China.
- A key point: innovations (in business, law, technology, etc.) emerge and then are diffused everywhere, with Europe seldom being a leader.
- The Internet is no longer dominated by the United States alone, but now by the United States and China. However India is going to join this pair; it is catching up in several sectors.
- Competition is very intense, everywhere, always, in all market segments.
- Competition in this context is as much (if not more) a matter of resources (human, legal, legislative...) as of markets.

These comments suggest that the coordinated (but sometimes incoherent) juxtaposition of 28 markets and of as many (if not more) legal systems is not adapted to this new, tougher age with stiff competition at all levels (individuals, firms, territorial subdivisions, nation-states, economic zones). But they do not show us the goal, nor the way to reach it.

¹ Article translated from French by Noal Mellott (Omaha Beach, France).

Through its articles (far from exhaustive) from persons active in this domain, this issue of *Réalités Industrielles* discusses some of the most important topics for conceiving of a digitized European Union. It opens with a firsthand account from a Polish entrepreneur, Éric Salvat in data-mining, a lively field of activity in all countries, whether in the EU or not. This article is followed by a series of viewpoints about a "digital Europe" with focus on, respectively: the geopolitics of data (Thierry Berthier & Olivier Kempf); the geopolitics of European policies (Alain Ducass) and the policy of constructing common interests and defending EU achievements (Pierre Bonis). Policies directly related to the Digital Single Market are then brought under discussion: competition (Edmond Baranes & Andrea Cosnita-Langlais); integration of the socially vulnerable (Élodie Alberola, Patricia Croutte & Sandra Hoibian), personal data (Catherine Barreau) and digital platforms (a crucial topic at the center of articles by Winston Maxwell & Thierry Pénard and by Sébastien Soriano), defense and security (Nicolas Arpagian) and health (Aymeric Buthion).

Topics related to data or platforms are, directly or indirectly, well represented herein. The scope of this special issue devoted to digital Europe could have been extended to other policy fields, such as key immaterial resources: culture, education or intellectual property rights. Let us express the wish that these fields will figure in another issue of *Annales des Mines*.