DA.RE.

DATA SCIENCE PATHWAYS
TO RE-IMAGINE EDUCATION

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From the fourth paradigm of science to the future of work

On October 12th- 13th 2016 representatives of several European companies, including industries, research centers and universities, met in Italy to give the official start to Da.Re., the project of the Erasmus+ programme promoted by the European Commission.

Big Data and excellence in training, employment growth and jobs of the future. These are the issues addressed by Da.Re., the project that straddles the new paradigm of knowledge: in a world where the digital revolution walks side by side to the training and employment revolution, the future of the work is more and more knowledge and less and less factory.

In the last decade, the amount of available data grew exponentially, introducing the concept of *Big Data*. This term defines the complex flux of data, continuously produced by many technological agents: social media, Internet of Things, transaction-based data, increasing amounts of sensors, machine-to-machine interaction, RFID tags, smart meters.

The demand for data experts, namely Data Scientist, has grown twelve-fold over the last twenty years. The Economist has even labeled it as the “sexiest job of the 21st century”.

Big Data, considered as the fourth paradigm of science, represents a valuable resource that, just like oil did in the wake of 1900, is going to drive economies in the next century.

However, finding trained professionals, capable of transforming huge datasets into significant information, seems to be quite difficult for enterprises. The good news is that this apparent issue opens up countless possibilities for employment.

Innovation starts from training: Da.Re., a project of the Erasmus+ Programme

Achieving a smart, sustainable and inclusive economic growth is one of the main short-term challenges for EU. The citizens’ employability is among the most important aspect to ensure economic prosperity. A great obstacle in achieving such prosperity is the misalignment between job profiles demanded by the industry and those supplied by Higher Education Institutions (HEIs). If we are to tackle this skill mismatch, thereby reducing unemployment that Europe is currently facing (10.3% on average) we must improve our educational and training system. In order to do so, it is essential to incentivise equity and learning effectiveness.

Higher Education Institutions needs to adapt to the changing needs of the global market, including plans for training and research designed ad hoc. In this view, Big Data represents a great opportunity to tackle unemployment. Data Science is, however, too wide and diverse for a flat education path.

Da.Re. project intends to give a significant contribution in the reform of teaching and governance, bridging the gap between HEIs and the business sector, in order to enhance the functioning of the “knowledge triangle”.

To reach this objective, it is necessary to identify properly the set of skills and, therefore, the professional profiles that the market demands, mapping these needs and sharing them within the education system, in order to better design learning programmes and activities.

The result of the project will be the identification and design of training programs dedicated to the future of big data professionals, the contents of which will be built on the basis of the actual needs of enterprises, so as to ensure the formation of Data Scientist ready to immediately enter the world of working with the right skills to meet the employability opportunities created by this new data science.

Loccioni, University of Camerino, eConsulenza and Confindustria Ancona (Italy), Polytechnic Institute of Bragança and Maisis Information Systems (Portugal), Vision Scientific and The Open University (UK), Nissatech (Serbia), Abelium Doo and University of Coast (Slovenia). These are the partners who take part in the project.

Giving priority to the constant exchange of expertise between the partners of the project, in the first phase of the study, the training offer in the field of Big Data, both nationally and internationally, will be mapped.

In the second phase of the Da.Re project, the companies involved, representing the demand, indicate the professionals necessary for the development of projects on data mining, along with the requirements and the specific skills of these 'new professionals '. However, the Universities involved, representing the offer, will provide their expertise in the design of training programs and the network of teachers and trainers.

This will end in the selection of a group of students that will be involved in testing the new training offer, that will integrates both 'theoretical' courses in classroom and experiential learning within enterprises. In the last phase of the project the prototype of the ideal Curriculum Vitae will be designed, deriving from the experience of the pilot course.

Da.Re. project will involve students, professors and professionals in learning, training and capacity-building activities focusing on the quickly growing field of Big Data. The widespread involvement and deep commitment of small, medium and large companies, along with tech-intensive firms in designing educational paths and creating standards for the assessment of their quality will have a great impact on the alignment between said paths and market requirements, generating highly qualified Data Scientists.

Da.Re. project address the Big Data issue with a new and unique cross-sector perspective, in which learning methods and paths, policy suggestions, sharing of best-practice and training activities will allow data scientists to acquire the right skills to help industry to manage and understand data, taking advantage from them.

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