ELEARNINGNEWS ARTICLE

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Transmitting Key enabling technologies with eLearning

What are the key skills to transform manufacturing into industry 4.0 and how to train staff at a distance?

Micro and nano electronics, nanotechnology, industrial biotechnology, advanced materials, photonics and advanced manufacturing technologies are the enabling or **Key Enabling Technologies (KET)** that, according to the European Commission, will revolutionize the way we produce and live. Thanks to these six new technologies, industry will be better able to respond to social challenges by ensuring their **economic and environmental sustainability**. By focusing on research and innovation, solutions are provided that create jobs for highly qualified personnel. Italy, as the second largest manufacturing country in Europe, needs to complete its transition by focusing on research and **staff training**. What are the advanced technologies that are changing manufacturing and how to transmit knowledge to employees through online courses?

Manufacturing enabling technologies: digitization and process automation

Some key competences of the fourth industrial revolution can only be related to the digitization of production processes and automation. The fields of application are different, in medical, chemical, transport, etc.. The **digitization** of production documents helps to track and improve customer service. Through **machine learning** you can connect machines and use robots to control and monitor the quality of a product. By creating a simulation, production staff can interact with **collaborative robots** or access scanned documents to answer customer questions remotely. All this with an online course.

Train staff on big data, cloud and online security

Another key aspect of enabling technologies for manufacturing is the ability to **analyze the information** produced by the dematerialization of documents and production processes safely. With an online course you can transmit the basics of number science, **data science**, and learn how to use software for data exploration and the use of analysis techniques to improve the quality of products and services and anticipate trends in automotive, manufacturing, logistics, etc..

Additive manufactoring and augmented reality

The **3d design** allows you to imagine and experience the production of plants and machinery in a virtual environment. With 3D printing you can use metal, plastic and composite materials to build a component. eLearning lends itself perfectly to the simulation of design software and the creation of **virtual reality** environments to train personnel on how to monitor systems and perform complex assemblies.

In manufacturing, enabling technologies allow to **digitize and automate production** processes and foster human-machine interaction in design, parts production and data analysis in a secure cloud environment. All this can be done remotely through simulations, virtual reality tools and courses for the digital transformation of your LMS.

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