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BOOTCAMP FOR THE SMART FACTORY

Fit for Industry 4.0 - practice-proven qualification at the Learning Campus of ROI-EFESO.

The majority of participants in your training courses are managers. How much does the classic manager need to know about Industry 4.0 and Smart Factory?

This depends very much on the participant's area of responsibility and also on the strategic orientation of the company with regard to Industry 4.0. The more specific the participant's field of activity is, the deeper the need for qualification in a particular topic. For example in the collection, analysis and use of data. In the case of production management or plant management, this does not necessarily mean that they must have full knowledge of every technology or data use model. It is more important to know the overall context and overall

benefits of a smart factory and to be able to define the way there for the company. This is the strength of our seminars: On the one hand, to provide a sound overview of Industry 4.0 to a certain depth, and on the other hand to show how the individual elements of Industry 4.0, such as the use of digital technologies, lead to process improvements and efficiency gains in the factory. Therefore, many of our seminars also include case-related simulations as well as practice-proven application examples from industry. Here you can see very clearly the added value that the technologies bring to the factory, both for the employees and for the entire company. This helps managers to get a feel for what the right technologies and the right Industry 4.0 approach can be for the company.

ROI-EFESO has already been conducting training courses around Industry 4.0 for several years. How have the participants' previous knowledge, initial situations and questions changed?

It can be observed across the board that the need for training is still very great. One must not forget how new the topic is for companies, even though Industry 4.0 is increasingly coming into focus. There is still no comprehensive prior knowledge and not much concrete experience. The initial situation is also similar in principle. The participants have often gathered a certain amount of know-how about individual technologies, also from working on concrete problems in their companies. Sensor technology and

smart robotics are very good examples of this. What is usually missing, however, is an overarching view of the topic of Industry 4.0, an overall vision of how Industry 4.0 can change and advance the company or its own area of responsibility. Developing such a vision is challenging, it requires a broad and networked knowledge.

What is necessary to make the implementation of Industry 4.0 strategies successful?

Let us take the situation of a plant management as an example. She knows what initiatives should be taken in the factory. But when a new cloud provider comes into play, for example, this causes uncertainty and the need to adapt the roadmap. It can happen within any level of the organisation that a new tool, a new system is introduced and previously planned digitisation initiatives can no longer be implemented as planned. It is therefore essential that in Industry 4.0 projects several disciplines and departments cooperate and agree on planned activities on a regular and above all short-cycle basis. After all, such projects are always about investment and staff capacity. A tried and tested approach is to determine the actual fields of action of Industry 4.0 for your own company. To what extent do you want to expand digitisation within the factory? Which target image is derived from digital networking with customers and suppliers? And what does this mean for the downstream architecture? So this is a process that helps to promote the topic of Industry 4.0 step-by-step within the company and thus also gives managers and all employees acting on the shop floor the necessary security to implement the task packages in the right order in a targeted manner.

Isn't digital shop floor management counterproductive for this exchange in particular? Doesn't automation cause a certain loss of communication between employees and line managers?

On the contrary. In the Lean philosophy, shop floor management is a management and communication tool and is intended above all to increase the problem-solving competence of employees. Communication in this context means that people meet regularly and exchange information in a targeted manner. And in my opinion, this should not be replaced by any technology in the world in this form.

Digital shop floor management is a valuable supporting component of regular team meetings on the shop floor to discuss problems and exchange information on the causes of problems and approaches to solutions in the sense of a PDCA cycle. Digitalisation can provide support in identifying and solving the causes of problems, for example in the event of a machine failure. Nevertheless, it must then be discussed why this happened. This has the great advantage that experience values are shared and thus a common learning process takes place. Collected data about the machine and its history, which are recorded within the framework of digital shop floor management, can in turn support the employees in finding and eliminating faults. If a problem history is stored, it can be used in the future for similar problems elsewhere in the factory. Another advantage is the time saved. This in turn creates room for more productivity. Thus the possibilities of digitalisation can make shop floor management even more powerful, provided it is used correctly.

How justified do you see the often predicted disappearance of certain roles and functions in the factory as a result of digitalisation?

In everyday factory life there are very different and complex processes and tasks. It is therefore more correct to talk about replacing certain activities and assisting in other activities rather than about the disappearance of entire roles or job descriptions. The technologies that are predominantly used in the factory today in the context of Industry 4.0 support people in the work process, for example in the form of digital assistance systems. However, wherever more complex tasks have to be mastered, people are needed. If, for example, there is a sudden system failure or faulty products are produced, it is the task of the responsible persons to carry out the fault rectification and cause analysis.

In such critical, dynamic and complex situations, data can help to gain a clear picture - but not replace human judgement. Thus, the task of ensuring error-free and robust processes in the factory still lies with the people. However, the increasing digitalisation in the factory makes it necessary to acquire new skills and become more involved with technology as it changes work processes and the form of cooperation. Moreover, it is becoming apparent that new roles and job profiles are emerging in companies as a result of digitisation, and we also raise awareness of this among participants in our seminars.

