

VOSCO Consultants

Industry 4.0 in the tube industry as a key for solving the present crisis

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The corona crisis is challenging the world tube and pipe consumption strongly. This affects nearly all areas as the OCTG, automotive, mechanical and construction markets. Better chances on the market are still given to those who offer higher material qualities and tighter tolerances, but especially to those who manage to implement technologies for a cost-effective and intelligent production. Among low fault tolerance and consistent quality, customers of tubes and pipes expect in particular an increase in delivery reliability and flexibility, which is determined by the entire supply chain. At the same time, the industry will have to consider uncertainty factors such as decisions on national/international climate policy, which could result in considerable cost increases. Due

to these trends, companies understand more and more the need to exploit data in real time to use them for production and process optimization and the necessity to follow the trends of digitalization and to drive Industry 4.0 forward.

But how does the individual company manage this balancing act between increasing delivery reliability, specialization, environmental consciousness etc. - especially in view of global competitive pressure and advancing digitalization? What measures can the tube and pipe industry take to meet the growing challenges of global competition? Which digitization measures and developments regarding Industry 4.0 are company-specific relevant and capable of being implemented?

To answer these questions, it has

proved helpful to first analyze and evaluate a company's individual level of maturity with regard to Industry 4.0. Figure 1 shows the path of this maturity – from simple computerization over transparency in the production to a completely self-optimizing, adapting company.

In an already internationally recognized approach, the company-specific degree of maturity is multidimensionally assessed, categorized and compared in its categories. The maturity assessment serves to identify potentials and weaknesses or, more generally, to uncover digitization needs. The need is not only derived from the potential offered by existing digitization possibilities and new technological developments, but especially from the harmonization of the individual digital progress

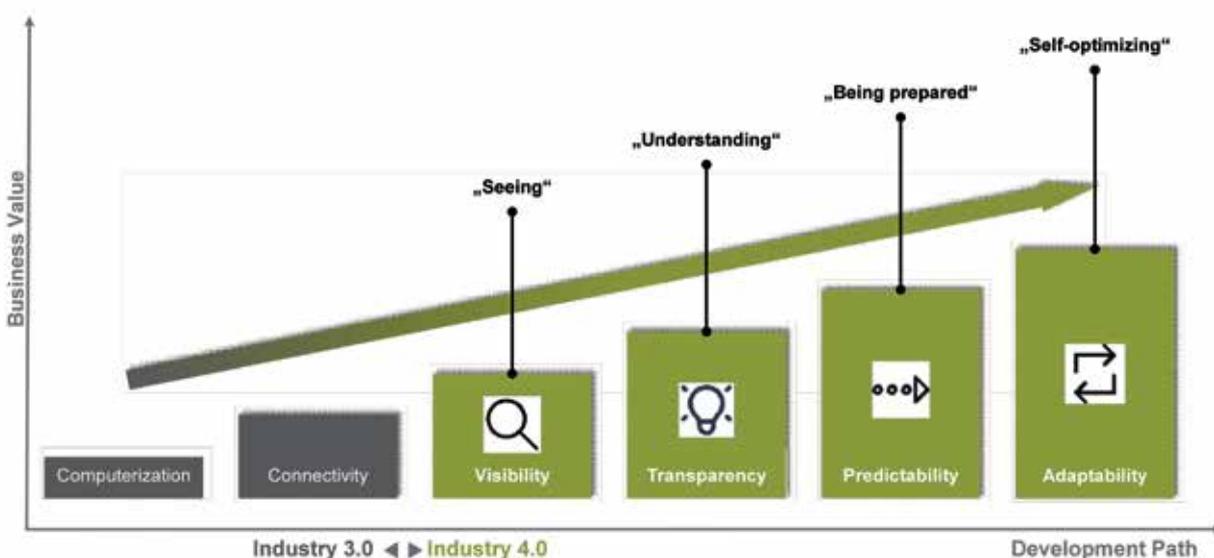


Figure 1: The development path to Industry 4.0 (in the style of Acatech study 2017)

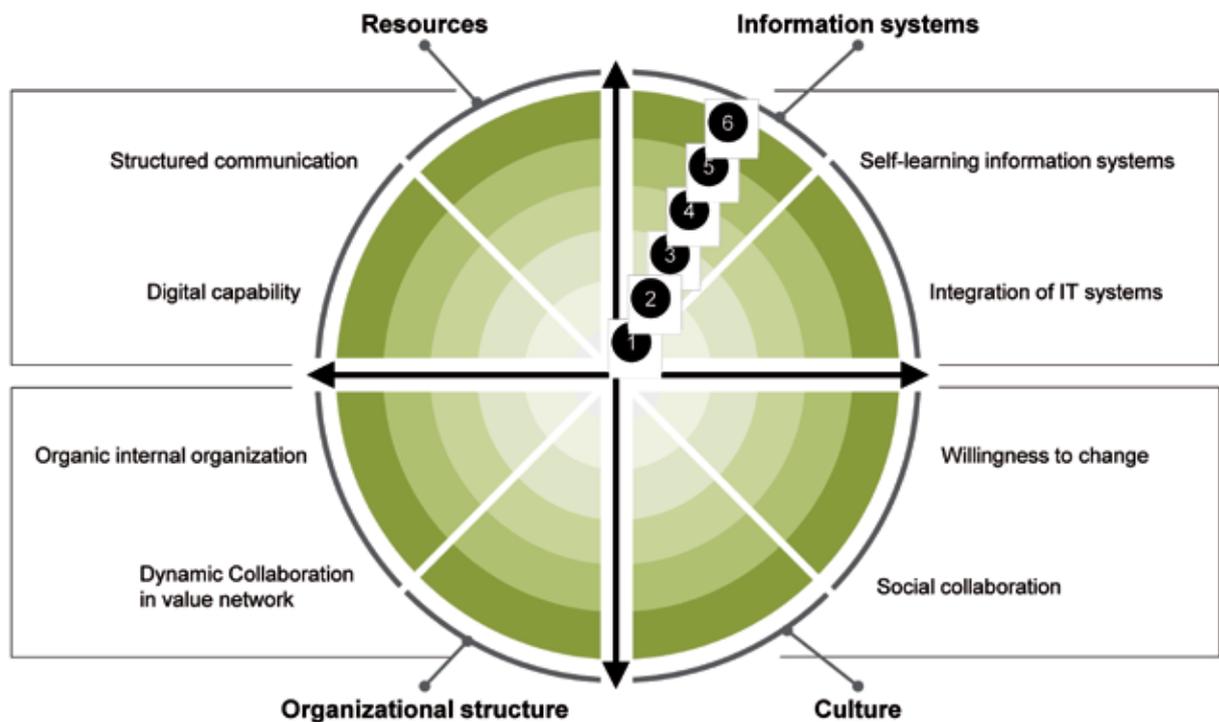


Figure 2: The categorization of individual maturity levels (in the style of Acatech study 2017)

of the company. Thus, the resulting multidimensional picture of the current digitization and its possibilities can generate a sufficiently precise description of the status quo as well as of the measures – which can vary from technological solutions, over organizational and processual adjustments to cultural aspects – to be urgently implemented. It should be taken into account for each individual company that a low level of maturity in a particular category, as having bad business processes while using highly developed technologies in the same time, can hinder the whole progress of further company development. This is graphically illustrated in figure 2. Based on this as-is analysis of the degree of maturity towards a future-proof company, a project roadmap can be developed individually and in accordance of the latest approaches from industry 4.0. The

decisive factors for the success of this roadmap are the previously identified potentials, the alignment of specific digitization categories and the prioritization of the individual projects in terms of company-individual needs.

An overall higher level of digitalization capability will lift the performance and quality of products and processes. Thus, companies in the tube and pipe industry will be enabled to remain competitive in the long term.

Managing the change in an efficient and target oriented way, a company requires the regarding expertise in industry 4.0 and the related competence concerning organizational requirements, process optimization and technological opportunities. Only with an objective and unbiased perspective on an organization, these vital opportunities can be mastered.

VOSCO Management Consultancy

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