Simultaneous Engineering: An Efficiency Boost for Industry

Many industrial companies are wasting value creation potential in production and development

Munich, 23/04/2013 – ROI Management Consulting AG, specialists in the design and management of value chains, demonstrate in an analysis that fewer than one third of all production businesses systematically exploit the efficiency benefits of Simultaneous Engineering. And this although measurable savings can be achieved in project duration times and change management using these approaches.
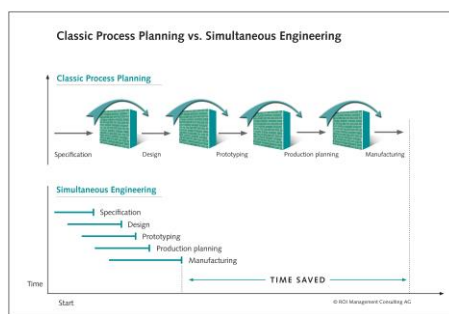
Whether smartphones, HD TVs or cars – the number of new products launched each year in many industries nowadays runs into the hundreds. Customers may enjoy the variety that this offers, but it also increases the time and cost pressures in the industrial value chain. Simultaneous Engineering (SE), the parallel development and implementation of products and processes across interdisciplinary teams could provide relief. However, fewer than one third of all production companies still do not use SE, or have introduced it inadequately, although project duration times can be more than halved and up to one third of all resources hitherto needed can be saved. This is demonstrated by an analysis undertaken by management consultants ROI.

Interface costs consume up to 20 per cent of returns

The measurable implementation of inter-departmental collaboration is still only a theoretical concept in most production companies. The problem is that simultaneous collaboration between product developers, purchasers and production schedulers is already specified in many PEP methodologies – but those responsible for SE such as industrial engineers or purchasers are usually already too busy 'fire fighting'. There is simply no time to take a concentrated, analytical look at interface management across all the areas that are responsible for technically critical or significant components. It is precisely this 'blind spot' however that hides huge potential for saving costs and resources, particularly at the development stage. For example, car manufacturers beginning product planning and design can influence 15 - 20 per cent of the costs with the model decision and 13 - 15 of the costs with design, but once the vehicle is in serial production they can only save less than two per cent.

An investment in a well-implemented SE process can pay for itself correspondingly quickly and tangibly. Every single production company investigated in the ROI analysis reduced the number of subsequent changes in the development process and quality problems in the start-up phase by more than 30 per cent and at the same time considerably improved its risk management.

Solutions: communicative and pragmatic behaviour

ROI consultants have identified a variety of success factors for successful SE implementation in a number of best practice projects. Irrespective of the industry, production companies should take the following points into account:

- *Clearly specify and check the profile and tasks of the person responsible for SE*

  The person responsible for SE must understand the processes required for SE and must be able to apply appropriate methodological expertise. He/she must have extensive industry-related and technical knowledge to be able to discuss with those involved in a competent and credible manner. Ideally he/she will be relieved of other duties in order to be able to accompany product development processes from the beginning.

- *Communicate errors clearly and constructively*

  The diagnosis phase is particularly critical for success in every SE project. Experience has shown that during error analysis conflicts arise among colleagues and departments that were previously separated from each other within the company hierarchy. A high level of knowledge, experience as well as communicative and political skill is accordingly required in order to open up those involved for each other as well as for a common analysis of the situation.

- *Act pragmatically and sustainably*

  SE project teams should identify critical components and manufacturing processes as early on as possible, for example in the course of technical risk analyses. The important thing is to quickly identify the main levers for improvements or savings and to find pragmatic solutions that have an immediate effect. In addition, these must be directly registered as a long-term standard for all future projects. This does not just safeguard project investment but also creates trust and commitment among those involved.

- *Take account of cultural differences*

  If SE is being introduced across national borders, it is not only language barriers that need to be overcome. Dealing with cultural differences in the right way is also critical for success. An integrated site network requires intensive, open communication between all those involved as well as an unimpeded flow of information and expertise. Appropriate staff training together with performance monitoring and assessment in accordance with the new procedures will ensure that the knowledge learnt is quickly applied in practice.

Printable images can be found at
http://www.roi-international.com/en/unternehmensberatung-muenchen/news-presse/press/bildarchiv.html

About ROI:
With more than 1,000 successful projects, ROI Management Consulting AG is one of the most prominent specialists in planning, building and controlling global value chains. ROI supports global players and renowned family-run companies, in particular in the integration and optimisation of development, production and logistics, in supply chain management and in the company-wide implementation of lean-management principles.
With its projects that are clearly focused on implementation, ROI has received many important awards. The company employs more than 80 people in its offices in Munich, Beijing, Prague, Vienna and Zurich, and is represented globally with partner offices in Italy, France, Great Britain, Thailand and the United States.

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