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To the customer's advantage – From One Platform Concept to Process Line Package

Ever since its introduction, the Voith One Platform Concept (OPC) has been systematically developed for even greater customer benefit. More than twenty new paper machines for almost every grade of paper have been built and delivered on the OPC principle. Originally the One Platform Concept covered the paper machine from headbox to reel. As a second step it was extended at both ends to include stock preparation and roll packaging. And in the latest stage all the auxiliaries contributing to the papermaking process have also been integrated in this concept.

Current status of the One Platform Concept

Today all Voith paper machines are designed and built according to the One Platform Concept. For each paper grade Voith offers under the One Platform Concept a standard production line layout in which all the modules including headbox, wire section, press section, dry section, calender, coater, reel and winder are optimally adjusted to each other. Apart from these modules, custom-tailored components such as roll covers, fabrics and above all intelligent automation systems ensure that all process requirements are optimally fulfilled.

The One Platform Concept is innovative, well proven and customized. Its purposes

and goals can be summed up as: Quality tons on the reel!

Further development of the One Platform Concept

The experience gained on numerous complex plants has shown again and again that not only a perfectly functioning paper machine, but above all the perfect design, balancing and dependability of all auxiliaries is decisive for production quality. For papermaking lines it is indeed very true that a chain is only as strong as its weakest link.

As a result, standardization efforts recently focused intensively on the auxiliaries as well. For example air technology

systems, vacuum systems and electrical drives are key components of a production line.

Although these are not original Voith products, the One Platform Concept with its standardized interfaces is ideal for integrating subcontractors' products as well.

One Platform Concept and Process Line Package

In order to extend the advantages of the One Platform Concept to auxiliaries as well, Voith has developed the **Process Line Package** concept.

Voith is world famous for first class paper machines. To most people that means

a combination of dependable machinery and sophisticated technology. But this is only one aspect of Voith's performance. For complex plants another factor is increasingly important – professional project management. To ensure that all components mesh together like the pinions in a gearbox, the entire project has to be in one pair of hands.

Voith's new Process Line Package (PLP) concept is the perfect way to handle complex projects **fast** and **efficiently**, at **low risk** and **cost-effectively**.

Market requirements

The paper industry today is more affected than ever by the rising costs of raw materials, energy and human resources. At the same time, earnings on paper products have flattened off. This means that cost-effective investments must not be higher than they were five years ago, for example.

New production lines today can cost up to 500 million Euro. Such large investments are challenging even for large international corporations. They cannot afford any errors which might endanger production startup, paper quality or output, so they generally choose only well-proven processes and technologies.

Furthermore, a good many paper mills have reduced their design and planning

staff to a minimum in recent years, so that only everyday tasks can be handled. For large projects they lack the necessary specialists and above all the project management experience required. With a hundred suppliers or more involved in large projects,

- Who coordinates them?
- Who carries the responsibility?
- Who ensures success?

Possible solutions

For paper mills without their own project engineers there are two alternatives: either recruit specialists or delegate the project to a consulting firm. Both solutions have their advantages and drawbacks, which have to be carefully evaluated according to project. In both cases, however, nobody takes overall responsibility for plant operation as a whole. For this, a general contractor is required.

A general contractor is able to take overall project responsibility, but normally with such insignificant value-added that risks can only be covered by appropriate provisions and margins. This increases investment costs without adding value accordingly.

Only the supplier of the paper machine, which always represents the greater part of the investment, can take overall

process responsibility – provided that they are directly in charge of all the key components. Thanks to the experience and findings gained from numerous projects, they can precisely formulate the requirements on subcontractors and take overall responsibility without any additional risk.

This systematic project management approach, perfected by Voith during the course of several years, is called the Process Line Package.

Process Line Package

Definition

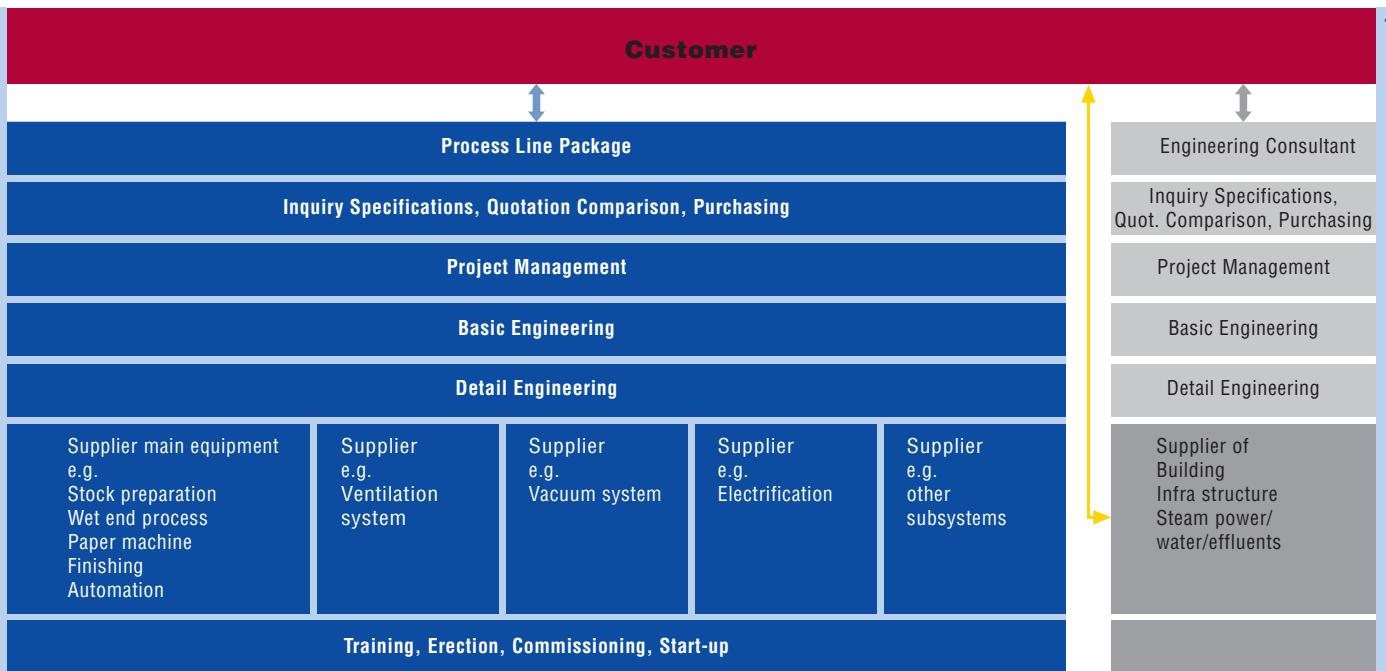
With the Process Line Package the paper machine supplier provides design, procurement and erection supervision services for all line components influencing the papermaking process.

Extent

The papermaking process line includes all relevant line components, ranging from stock preparation and additives systems, to the paper machine and finishing processes including roll packaging. It also covers subsystems such as air technology, electrical power and automation, as well as the auxiliary systems.

Explicitly excluded are generally the mill buildings, power plant, water treatment and logistics.

Fig. 1: Process Line Package – all out of one hand (100% PLP).



The PLP offer phase

Voith first draws up with the customer a requirements catalogue (project specification), then prepares a comprehensive offer covering all PLP elements.

Voith also procures the necessary subcontractor offers and integrates them into the overall tender.

To ensure competitive offers, requirements on subcontractors must be precisely formulated. This is a particular strength of Voith, that knows the optimal interplay of subsystems within the Voith process line and can therefore select the optimal subcontractors (both with regard to price and quality).

PLP flexibility

Voith offers two commercial PLP versions:

- Voith takes over the entire PLP and supplies all auxiliaries, ensuring thereby competitive subcontractor offers. In other words: Voith is the buyer and seller (**Fig. 1**).
- Voith compiles the subcontractor specifications and procures their offers. The customer decides whether to buy some line components directly, but must take account of the requirements placed by Voith on the subcontractors. Subject to this condition, the customer can assign overall responsibility to Voith, who is paid a risk surcharge (**Fig. 2**).

PLP in practice

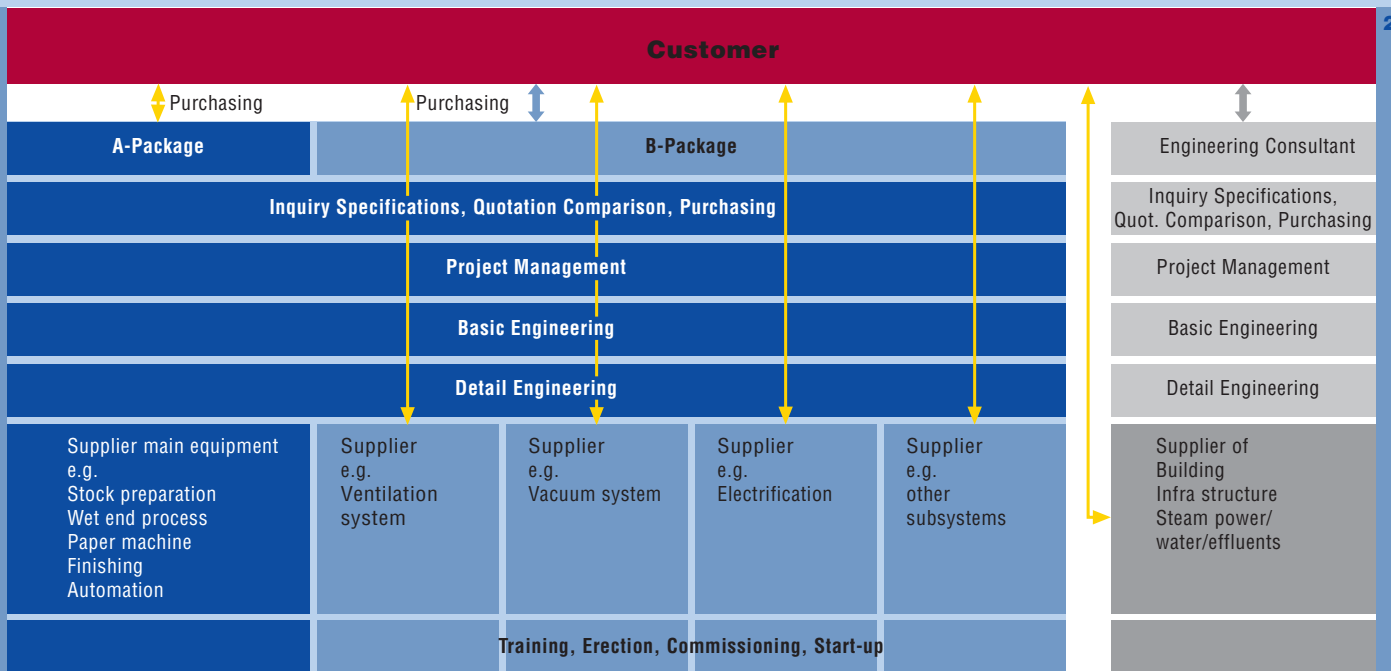
Voith takes overall responsibility for project management, scheduling, erection, commissioning and subsequent optimization. The customer, therefore, has only one partner to deal with, that is responsible for the entire line.

PLP guarantees

Voith takes responsibility for the completeness and correct operation of the components and systems supplied. In particular, Voith guarantees:

- the completeness of all PLP components
- compliance with the time schedule
- compliance with process quality and capacity requirements.

Fig. 2: Process Line Package with a B-Package portion.



PLP advantages

Overall responsibility of the PLP partner **minimizes interfaces** for the customer, who must no longer consider supply limits and responsibilities within the PLP. This reduces discussion time and **speeds up the project**.

The continuous standardization, which led to the Voith One Platform Concept, can now be extended to the auxiliaries as well. This brings further **cost savings** and **minimizes risks** by using only well-proven equipment.

Voith spends about 5% of earnings on research and development. Extension of the One Platform Concept to the auxiliaries

enables **further development** of these components as well.

PLP project experience

Project completion times of 13 months (from receipt of order to first paper on reel) and world record production outputs only three months after commissioning (Dagang) are outstanding examples of successful PLP projects.

Feedback received from customers that ordered Voith PLP projects have always been positive, thus confirming that PLP projecting is the way to go in future.

Voith Paper Heidenheim handles about three PLP projects every year. The experience

gained thereby by Voith and its people is the best guarantee for ongoing project success.

By the way: the Process Line Package principle is also used for rebuilds. This lets the customer complete a complex rebuild quickly, reliably and successfully with only one partner.

Customer statement

"With PLP we already know before commissioning how much the project will cost. With traditional project handling, the costs are only apparent when it is too late to do anything about them."