

Get a grip on product development

Working together is essential for small and medium-sized enterprises to efficiently bring products to market. Paul Gardner, principal embedded expert engineer at **konplan systemhaus**, outlines the advantages of close collaboration between companies with complementary skill sets.



ETH and Empa spin-off Monolitix develops novel mechanisms that are based on a unique technology, providing movement and load-transfer capabilities without using classical joints or guides; instead, the movement is realised by deforming the material.

Domino Modul, specialising in handling components, instantly realised the potential of using the Monolitix technology in gripping applications. This pair of companies collaborated to develop a pneumatically driven gripper that is economical, easy to clean and quickly replaceable. The monolithic gripper's kinematic design (patent registered) is maintenance and friction free, ensuring the smooth handling of sensitive objects thanks to its custom-specific front ends.

To extend the product range, the development of a further gripper with an electromotive drive was planned. Domino approached konplan systemhaus to work together in designing and implementing the mechanics, gear and motor. konplan is an innovative one-stop shop for engineering services, providing mechanical engineering, industrial automation, embedded systems and quality assurance. With its own innovation process, the company is able to rapidly identify solution principles and set up performance teams.

This three-way cooperation allowed the collective knowledge, resources and skills of each company to be used to reach a common goal.

Challenges

Early availability of sufficient resources is crucial to successful collaboration. Effective collaboration requires effective teamwork; team members must be able to trust and respect

one another. In addition, there must be open communication and a willingness to listen to others. A process that enables parallel performance of activities with clear goals, and that provides defined responsibilities and roles, is essential.

In this case, a flexible and simple approach was used. Resources were allocated from each company early in the process, and rapid prototyping enabled demonstration of the product at an exhibition a matter of weeks into the project. Now, there exists a product that none of the three companies could have realised without the joint effort.

The collaboration on this product development has also resulted in additional potential product enhancements being identified, adding further value to the project.

Wider benefits

In addition to the delivered working product, further benefits of collaboration include shared risk, resources and knowledge, as well as financial savings and a competitive advantage. Collaboration with companies such as konplan enables those with specialised skills, or in niche markets, to combine their talents and resources to create products that would otherwise not be possible. ■

Further information

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