automotive engineering

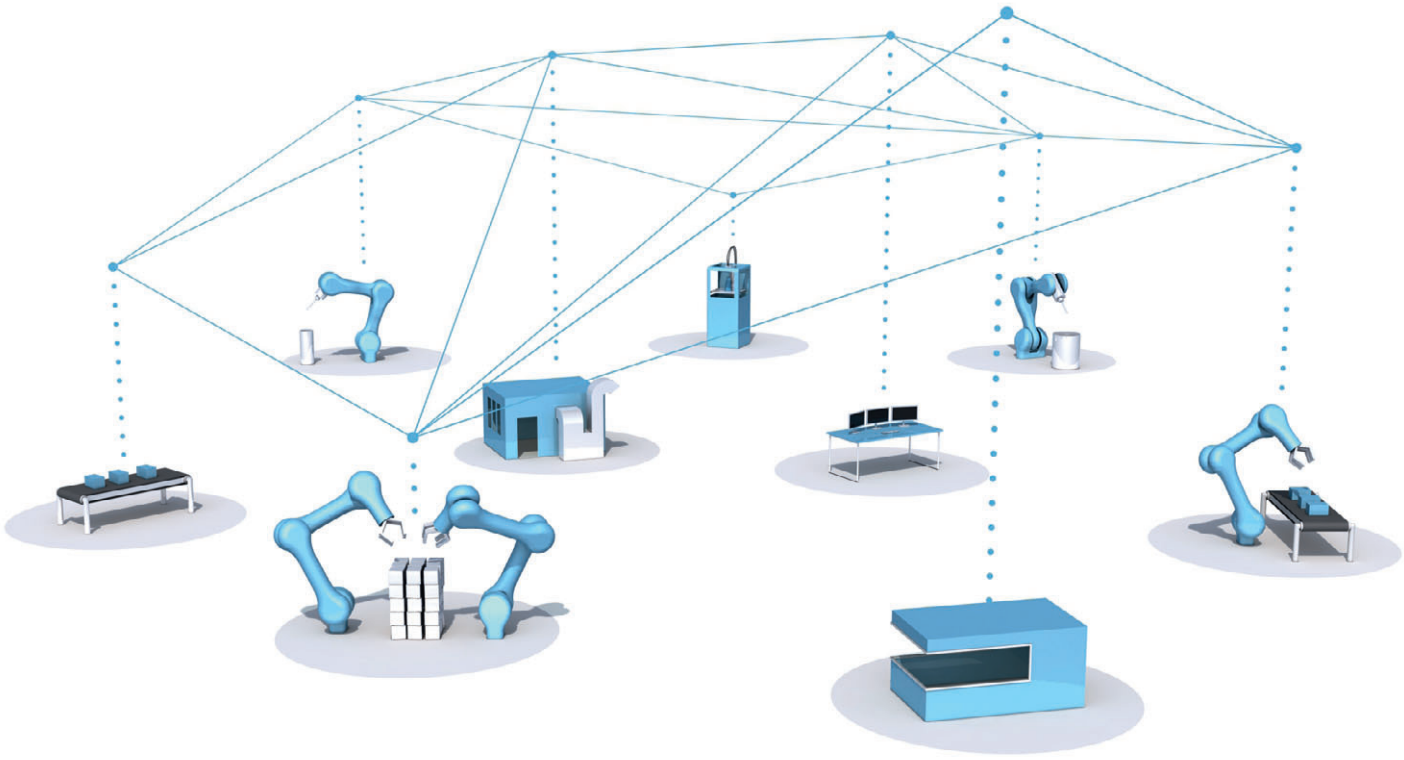
Fast Info Mesh System

Quick setup of ad-hoc sensor networks in industry

Within just a short time, mesh networks permit the use of a large number of different sensors for acquiring data. This is passed to an intranet or transferred onto the Internet via a gateway. These mesh networks are extremely useful when it comes to interconnecting existing production lines on a prototype basis at a later date and without major effort or cost. This lends itself to various applications, such as monitoring production for subsequent process optimization steps as well as for providing a planned permanent network in field testing.

Essential prerequisites for mesh networks are inexpensive, robust and energy-saving nodes on the hardware side. A software layer for automatic networking and the guaranteed transfer of data is also necessary. For this purpose, IAV offers the combination of tried and proven Raspberry-Pi-Zero modules and proprietary and thoroughly tested mesh software. Interested parties can test the solution in practice at no charge.

In over 35 years of automotive engineering, IAV has gathered experience in complex systems, using this to enhance numerous digital tools and methods. We are now making this expertise available to customers from industry, e.g. for the Internet of Things (IoT). Among other aspects, our mathematicians, data scientists, IT specialists and control engineers are working on solutions that meet our customers' needs in an ideal manner. Whenever necessary, we cooperate with leading solution providers in customer projects.



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Glassmaking 4.0

Glass melting – analyses of the appropriate melting point

Optimization of production processes from melting to cooling

Control in further processing

Visual quality control

Faster product cycles, innovations and individualization are demanding faster responses and new methods in glass production too. This is affecting all areas, from flat glass, glass fibers and glass composites to technical and utility glass. For each production operation, this means that large volumes of operating and diagnostic data must be acquired and processed in heterogeneous production line structures. In the long term, the use of "Industry 4.0" methods, such as data analyses, networking and process optimization/ control, is doubtlessly a worthwhile option. However, it is not certain in every case if the effort is likely to pay off. A fast, cost-effective solution for acquiring data is an initial step on the path towards finding out more.

Mesh networks as the gateway to Industry 4.0

A test run with a temporarily installed mesh network shows companies in a very short time whether they should invest in stationary Industry 4.0 solutions. They gather initial experience in acquiring and evaluating data and, proceeding from practical results, reach an informed decision on their further course of action.

Test over several weeks, no risk involved

For this purpose, IAV provides its customers with a complete system of hardware and software which they can test in practice for several weeks free of charge and without further obligation. Data evaluation can be complemented with the IAV Mara tool which is capable of managing and synchronizing large data volumes. The mesh network can also be combined with IAV's distributed diagnostic systems.