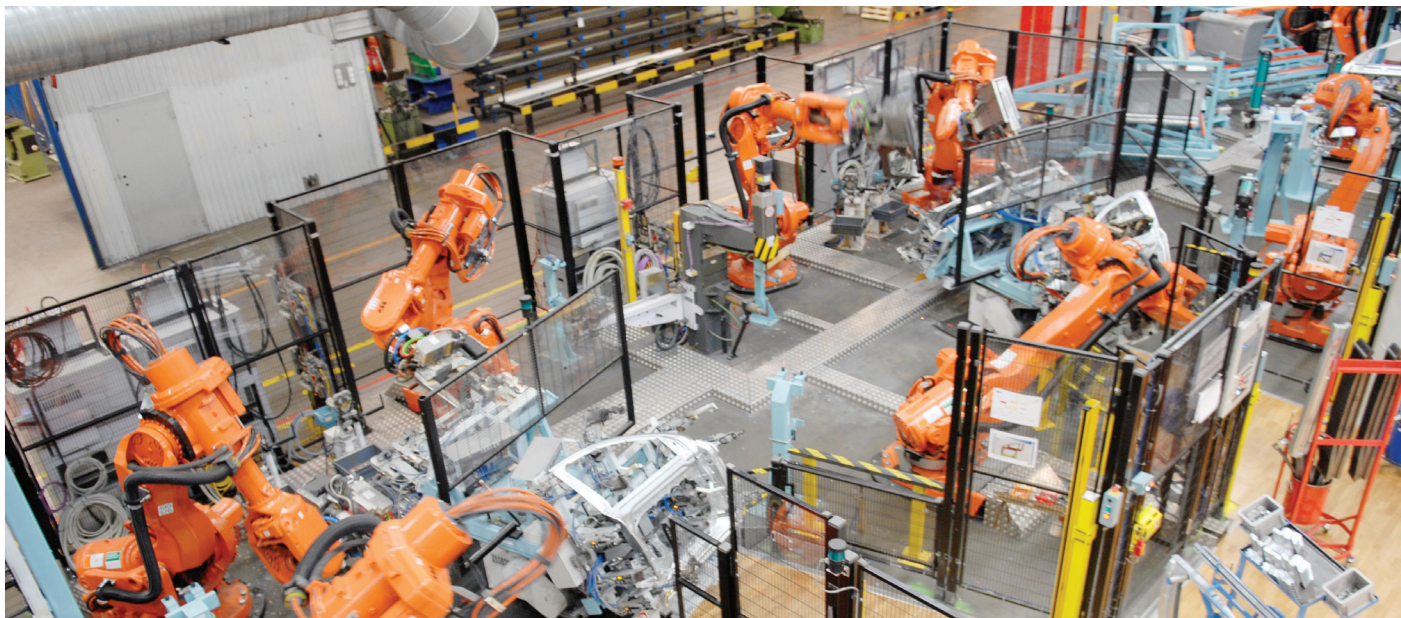


Case Study: Integrated DressPack

Integrated robot solution saves on wear and tear



Volvo Cars saves time and money with the Integrated DressPack option from ABB that substantially increases the lifetime of cables and hoses on the robots. Total lifecycle costs of a robot's cable and hose package led Volvo Car's component factory in Olofström, Sweden to choose ABB Robotics' Integrated DressPack option.

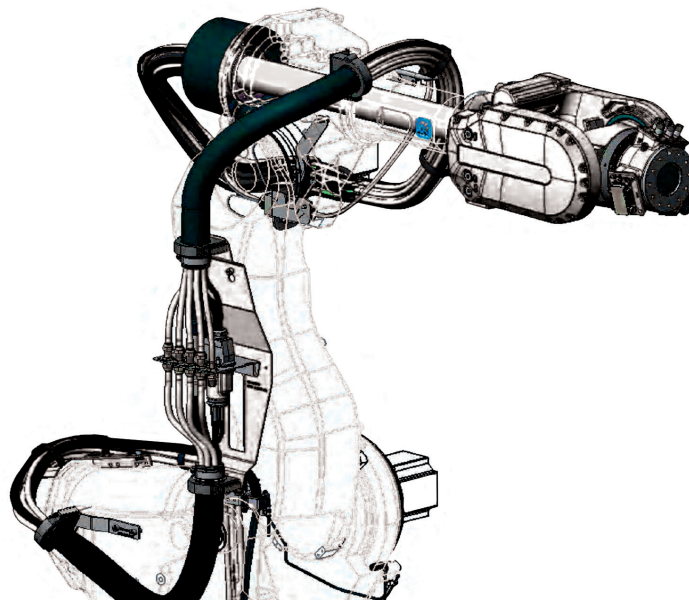
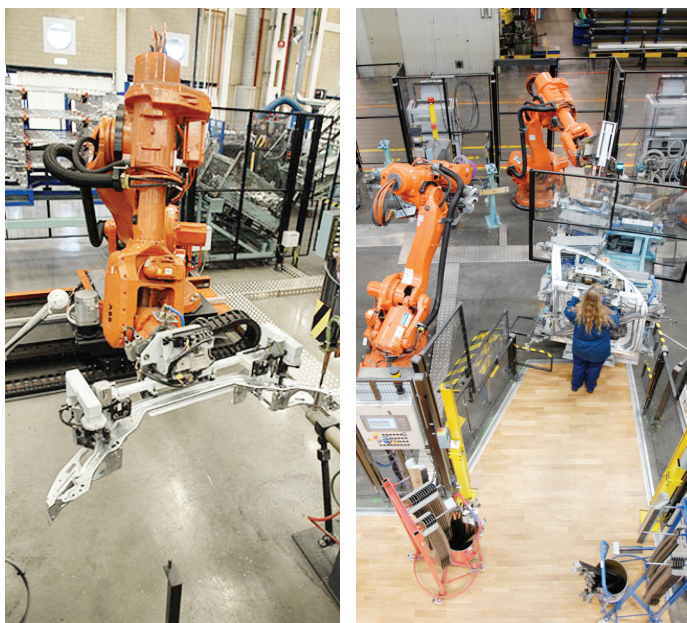
It was pretty easy to motivate the investment in the Integrated Dress-Pack option on the robots in the Volvo Car component factory in Olofström.

When exterior cables break from wear and tear, sometimes as frequently as every three months or so, it becomes very expensive. Now the target is set for a lifetime of several years. From a lifecycle cost perspective, the additional investment made a lot of sense. In addition, there was an enormous amount of time saved.

With the IRB 6600ID and the IRB 6640ID robots, water, air, electricity, welding power, and signal and process controls are routed inside the arm of the robot, with a superior capacity, to substantially reduce wear and tear when compared to having external cables and hoses.

As a result of this, the common problem with weld splatter, which can damage external cables, is solved. Another advantage is that the process wrist requires less space than a solution with external cables and hoses allowing it to enter narrow parts of a car body, for example.

In general, the Integrated DressPack option allows for a more compact footprint in crowded workspaces. Its modular design allows for a quick and easy 20-minute cable change if, and when, necessary. Floor space is money, so the less of it is used, the better.



In a relatively small area the size of several soccer fields, 90 robots are divided into four cells that work the doors for various Volvo models. In the first cell, 22 IRB 6600ID robots with integrated DressPack technology (out of a total of 65 used in Olofström) work the XC60 model and have been operational since 2007.

In April 2009, 50 new IRB 6640ID robots also with Integrated DressPacks were installed in two new cells. In many cases without the Integrated DressPack option, the cable and hose setup would be tweaked on robots individually to maximize their lifespan.

“One of the big advantages of the Integrated DressPack option is that it is standard and optimized and thus does not require individual settings per robot,” says Torbjörn Albertsson, Product Manager Spotwelding at ABB Robotics.

Benefits of the Integrated DressPack

- Substantially improved life of cables and hosing
- Smaller footprint means a more compact space, which saves money
- Process wrist can enter narrow parts of a car body
- Fully predictable movements and behaviour with off-line programming (only possible with integrated dresspack).
- Modular solution means dressing can be changed very fast, saving valuable time
- Standardization and optimization means no tweaking of robots needed to maximize performance

Volvo Car's Olofström component factory

- Number of robots: 565 (95 percent from ABB), of which 115 are robots with integrated DressPack options
- Sheet metal use per year: 355,000 tons
- First ABB robot purchased in 1976
- Oldest robot still in operation from 1991

- The Olofström factory manufactures components and then ships them to Volvo Car's factories in Gent, Belgium and Torslanda, near Gothenburg
- A typical car door on the Volvo XC60 model requires upwards
- of 150 spot-welds with a cycle time of 86 seconds

Quick facts on Volvo

Total cars produced in its 80-year history: 14,476,279 produced at plants in Torslanda, Gent and Uddevalla, and its assembly plants in Malaysia, Thailand, South Africa and China.

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