



Saab has long sought a software product which could automatically deal with backup copying of their robot programs. The handling of backup copying for Saab's robots was a growing problem as the number of robots increased. When ABB introduced WebWare, it fitted like a hand in a glove!



Saab Automobile AB is characterised by a new way of thinking and the power of innovation. At the factory in Trollhättan, cars are built which in design and driving sensation have their own, distinctive identity.

WebWare guarantees Saab's robot programs

As early as 1994 when Saab was planning production for the Saab 9-5, they were looking for a software product for making backup copies of robot programs. At this time ABB had nothing to offer. When planning for the new Saab 9-3 was started in 2001, ABB presented its software for backup copying, WebWare. WebWare is now connected to 357 of Saab's more than 500 robots. Mats Eriksson works on bodywork preparation and deals with questions concerning the workshop's 500 or so robots. As one of the advocates of an automatic system for backup copying, Mats has been involved during the whole WebWare implementation process.

"We have been using WebWare here at the body workshop for a year. During the last six months we have been using it fully," comments Mats satisfied.

Any loss of robot program is fatal

"We have made huge investments in our robot programs. It is of the highest priority to be able to save them in a secure way so they are not lost. Any loss of robot programs is fatal. Many expensive work hours would be lost if we vanished any changes in the robot programs due to not having a functioning backup," explains Mats. He points

out the value of a functioning backup further: "With WebWare, we have an automatic system which eliminates the risks that manual handling involves. When the backup copying used to be carried out manually, we had an insecure and time-consuming system, which led to overtime at evening and at weekends."

At the "diskette time"

Lars Fransén, responsible for control systems at bodywork preparation explains:

"Way back in time when we had fewer robots, backup copying of robot programs was managed via diskettes. This was untenable as we got more robots." Lars remembers that at "diskette time" there were many people involved in handling and keeping order for the diskettes with robot programs.

"The diskettes were locked in a safe. There were many different disks, the ones taken every week, those taken at slightly longer intervals and those taken a few times a year. The risk of confusion was great and sometimes it was impossible to know which version was on which diskette or which was the current version. There were quite a lot of diskettes to keep track of in a workshop with hundreds of robots..."

The need of an automatic solution

The only thing ABB could offer at that time was Robcom, a component which we used to build our own application in Factory Link. This application reduced the diskette handling somewhat. "However, as we at Saab are no system builders, we looked for a complete software which could give us an automatic solution," emphasises Lars.

Automatic backup every night

"With WebWare automatic backup copying of the robot programs is completed every night. You can easily find your way back to the latest backup copy, which leads to fewer production interruptions, a minimum of manual work effort and the option to go back and look at changes made in the robot program. This is extremely valuable," points out Mats, continuing:

"Compared to our own Factory Link application in Robcom, we have much better accessibility with WebWare. With Robcom, we could only access the function from certain computers."

Unlimited access

"WebWare is a PC-based web solution which we can access from wherever we want," states Mats. Saab has between 1-30 robots connected to each line computer. Most functions in WebWare are available for all production personnel.



Before we had WebWare, we had to make backup copies completely manually, which meant overtime in the evening, at nights and weekends", says Mats Eriksson.



"We needed a safe copying method and the option to trace changes in the robot programs", says Lars Fransén.

WebWare saves time

At Saab, time is saved by making backup copies using WebWare. Previously, it was necessary to go round to each of the 500 robots and make a backup copy on a diskette. Naturally, this limited the options for continuous backup copying. Copying was then only done for changes to the programs.

"With WebWare, we can find the problem instead of programming around it by returning to the latest version of the robot program on each line PC. Previously, we were forced to manually compare the new version with the old one and that took time," explains Lars.

Management decision

"Investment in WebWare was a decision of principle from the management. We need this system to protect our robot programs. In a production facility with at least 500 robots, you cannot rely on making backup copies of robot programs manually. Just being able to avoid a costly mistake is enough for the investment to pay off," concludes Mats unequivocally.

FACTS: WEBWARE INSTALLATION SAAB AUTOMOBILE

WebWare version: 3.0

WebWare is currently connected to 357 of Saabs robots in the car factory in Trollhättan.

WebWare is approved according to GM standard. EDS has carried out validation and tested the interface with other software on Saab's line computers.