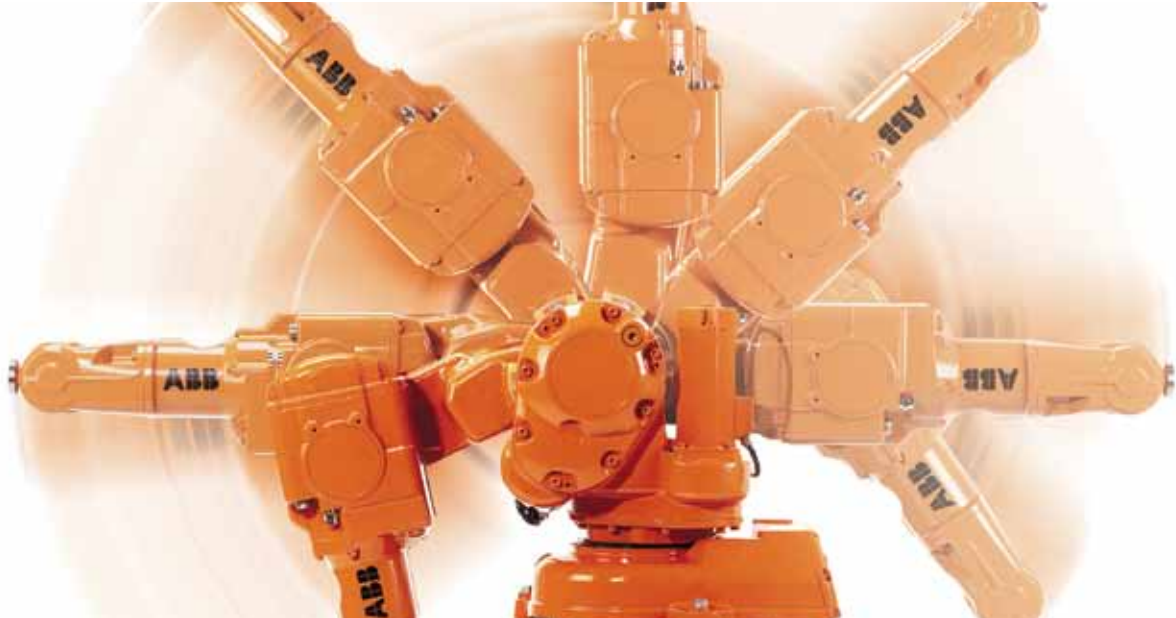


The “Fanta Can” Challenge



In 1994, ABB took a giant leap in motion control of industrial robots, launching a new technology enabling the fastest and most accurate, speed independent, robot motion ever. ABB has been the leader in motion control since then and the technology is known on the market as TrueMove and QuickMove. It has been further developed throughout the years. Today the second generation of TrueMove and QuickMove is delivered with ABB's robots.

QuickMove: The foundation of this motion control is a complete dynamic model of the robot held in the robot controller. This function enables the maximum possible acceleration for any move to be determined and is used on at least one axis; so that the end position is reached in the shortest possible time. As a result, cycle times are optimized and are not dependent purely on axis speeds.

TrueMove: This function ensures the motion path followed is the same whatever the robot speed and eliminated the need for “path tuning” when speed parameters are adjusted online. What you program is what you get – at any speed.

Our challenge

A demo cell was created in 1994, to showcase the accuracy of a robot while following a programmed path, which is independent of speed. The initial demo, by ABB's Jan Jonson, involved the robot with a welding torch running between wine glasses, following exactly the same path when changing the speed.

To establish the uniqueness of ABB's 'TrueMove' and 'QuickMove' technology, ABB decided to push the boundaries further by building an improved cell and using two IRB 140 robots coordinated by 'MultiMove'. This additional motion function allows up to 4 robots, or 36 axis, to be totally coordinated.

The demo involved one robot holding a tray with Fanta cans and the other robot handling a pin.

This was the first Fanta Can Challenge.

In 2009 to showcase the second generation 'TrueMove' and 'QuickMove', another IRB 140 robot was added to the first two, using two trays, of which one has a pin on the underside. The distance between the cans and the pins were decreased to 1.0 mm. This was to showcase the high accuracy with much tighter tolerances.

ABB's motion control is still unique in the market 16 years after it was first launched.

So there you have it. Our challenge. Ask your robot supplier to replicate the Fanta Can demonstration on three robots with coordinated motion. Lets us know the results.