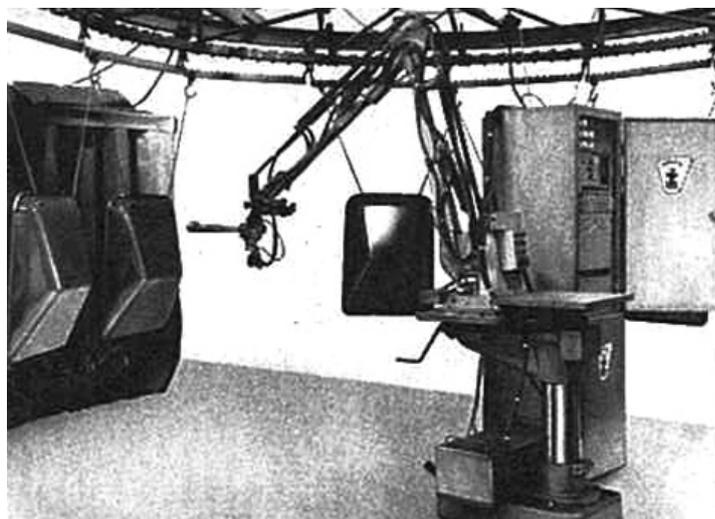




The world's first paint robot

The original name of ABB's robot factory at Bryne was Trallfa, a company that pioneered development of a robot for spray painting in 1965 - 67. It has its origin in a company manufacturing wheelbarrows, sack trolleys and transport equipment, which was founded in Bryne in 1941 by Nils Underhaug.



Nils Underhaug, a young man from Nærbø, wanted to enter into the automobile repair trade. By the age of 17, he had already created his first automobile, a monster with four bicycle wheels and a 1 ½ horse power engine, which scared the horses in the neighborhood and aroused the surrounding farmers' disapproval. But it worked! Little did he know then that he would later come to play an important part in the world of the automotive industry.

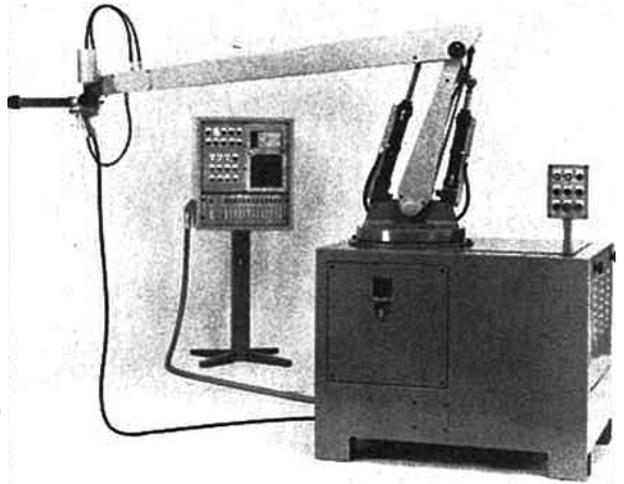
Nils completed his education and apprenticeship as an auto mechanic and worked for some years repairing automobiles. In 1941 Nils decided to start his own company. Equipped with a case of automobile tools and USD 2000 in the bank, plus an optimistic outlook on life, he started a trolley factory – Trallfa – on February 1, 1941.

Nils started out with only two employees. The factory grew steadily, and soon Trallfa could move into its first real factory building. Wheelbarrows became their specialty. New designs were created, prices lowered and the new wheelbarrows became a great success. The wheelbarrows were painted by hand, and despite the fact that several workers with modern equipment worked in shifts, painting became a bottleneck.

In 1962, Jæren Automation Association, with Nils Underhaug as chairman, employed Ole Molaug as manager. Molaug was a young mechanical engineer from a small place at the farthest end of a fjord in western Norway. After graduating from technical college, he returned to his father's workshop to earn a living at the wood turning lathe. He early had the idea to use electronic devices on the shop floor, and wondered a lot about constructing a robot. He learned electronics through private

studies. Later he received a grant from the Research Council of Norway to continue his studies.

Molaug brought his robot idea up for Nils Underhaug and were challenged to come up with specific plans for a spray painting robot. Ole studied the spray painting methods at Trallfa and on July 1, 1964, he presented a paper outlining his idea accompanied by a simple sketch, estimating the cost to USD 1500 - 2000. Nils Underhaug gave Ole Molaug the go ahead.



Molaug took charge of the electronics and tool maker Sverre Bergene from Trallfa was entrusted with solving the mechanical and hydraulic challenges. They worked at night and into the small hours, while doing their ordinary work during the day. Even though colleagues began to gossip about “those expensive toys”, they never lost faith.

In the summer of 1966, the robot had progressed far enough to be introduced at the Trallfa stand of the local exhibition “Jærdagen”. There it executed profile drawings, and crowds gathered to see this strange contraption performing.

So far so good, but would it really work? The opportunity came in February, 1967, when the robot had a trial run at the conveyor in the factory’s paint shop. Nils Underhaug had the honor of pressing the button to start the robot. Start it did, and painted wheelbarrow boxes passing along the conveyor - one after the other. The results were excellent.

To make a long story short, Trallfa decided to go into production with its robot. In 1969 the first industrial spray painting robot were delivered to Sweden for bath tub enameling. The company established itself early as the leading supplier of robots for spray painting applications, as it still is today in ABB.