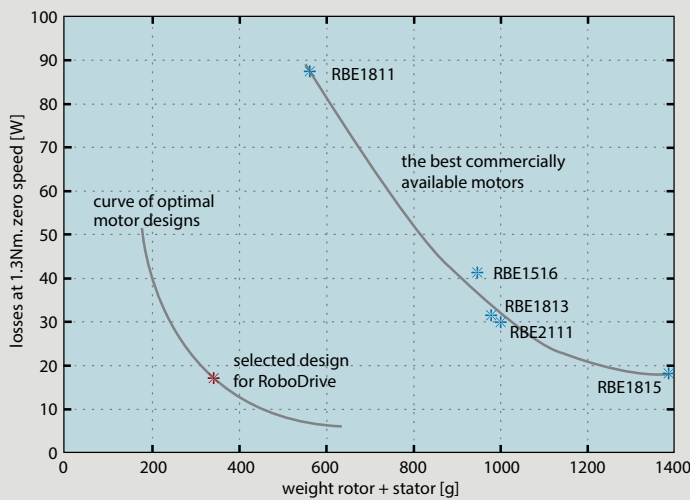


## A breakthrough in robotic motor technology

The graphs on this page are from *Experimental Robotics VIII*, edited by Professor Bruno Siciliano and Paolo Dario, published by Springer. The information is the result of studies conducted on the RoboDrive motors by the Institute for Robotics and Mechatronics of the German Aerospace Centre (DLR).

### Comparison of TQ's RoboDrive motors with the best commercially available motors

The DLR results show TQ's RoboDrive motors with only half the weight and half of the power losses of the best commercial-ly available motors.



### A Breakthrough in Motor Technology

In the past, robot manufacturers have taken the best available motors off the shelf for their robots, without being optimized for robotic applications (comparatively slow rotational speed through high dynamics, permanently reversing operation around zero speed) and aiming at minimal weight and power losses.

Two years of studies at the DLR in a concurrent engineering and optimization process took into account all the electromagnetic and other physical effects, short copper paths, optimal coil winding and coil filling aspects between the magnetic iron poles.

Out of this optimization process came the conclusion that the stator poles had to be subdivided and wound separately. This resulted in the technology for robotic applications that Robodrives excels in.

## Concurrent-Engineering

