

INDUSTRIAL SEMINARY

Technological challenges in motors and actuators development

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Fabio Faccini received the M.S. degree in electronic engineering from Padua University in 1998 and the MBA from the Shan Education Society Guardian College, Kondhwa, Pune in 2017. He joined ETEL SA in 2017 as System Product Manager and then as Head of Product Management in 2019.

Fabio is actually Head of Marketing in this same Company.
He was former Europe Sales Director in Nanometrics (USA), now Onto Innovation.



Alessandro Fasolo received the M.S. degree in electrical engineering from Padua University in 2006 and the PhD in industrial engineering from the same University in 2013.

He joined ETEL SA in 2014 as Research Engineer and then as Magnetic Design Manager in 2016. Since then he leads the team specialized in the design and test of high performance linear, torque motors and precision actuators.

Alessandro was former Research Engineer at Ducati Research Center and then Generator Design Engineer at Leitwind AG in Italy.

ETEL SA was founded in 1974 as a spin-off from the Swiss Federal Institute of Technology in Lausanne (Switzerland) with the intention of commercializing direct drive technology. As a pioneer in this field, ETEL's name has become synonymous with direct drive technology and has widely contributed to the growth and breakthrough of this revolutionary technology in a variety of industries.

The dramatic expansion of activities at the end of the 1990's persuaded DR. JOHANNES HEIDENHAIN GmbH to acquire ETEL to increase their competitive advantage in different high-end markets. For ETEL and its customers, the synergy between direct drive technology and advanced measurement systems has proven to be a winning combination.

The high technology skills of ETEL touch different areas concerning advanced mechatronics, motion control, precision actuators, torque motors and linear motors. Particularly the development of motors and actuators includes a wide range of iron core and ironless solution, according to the specific needs of the final customer, resulting in a tradeoff between thermal dissipation and vibrational issues. Looking at the linear motors case, this conflict is resolved in a technical issues-removing manner.



Additional undesired ripple related phenomena also occur, being more evident in the case of high speed turning motors application. The implementation of proper high quality checks in the production line is then crucial. A practical failure detection of components is shown in order to avoid these phenomena, guaranteeing safe and efficient operations, to the customer satisfaction.