



SPECIALIST in small and big-sized gears

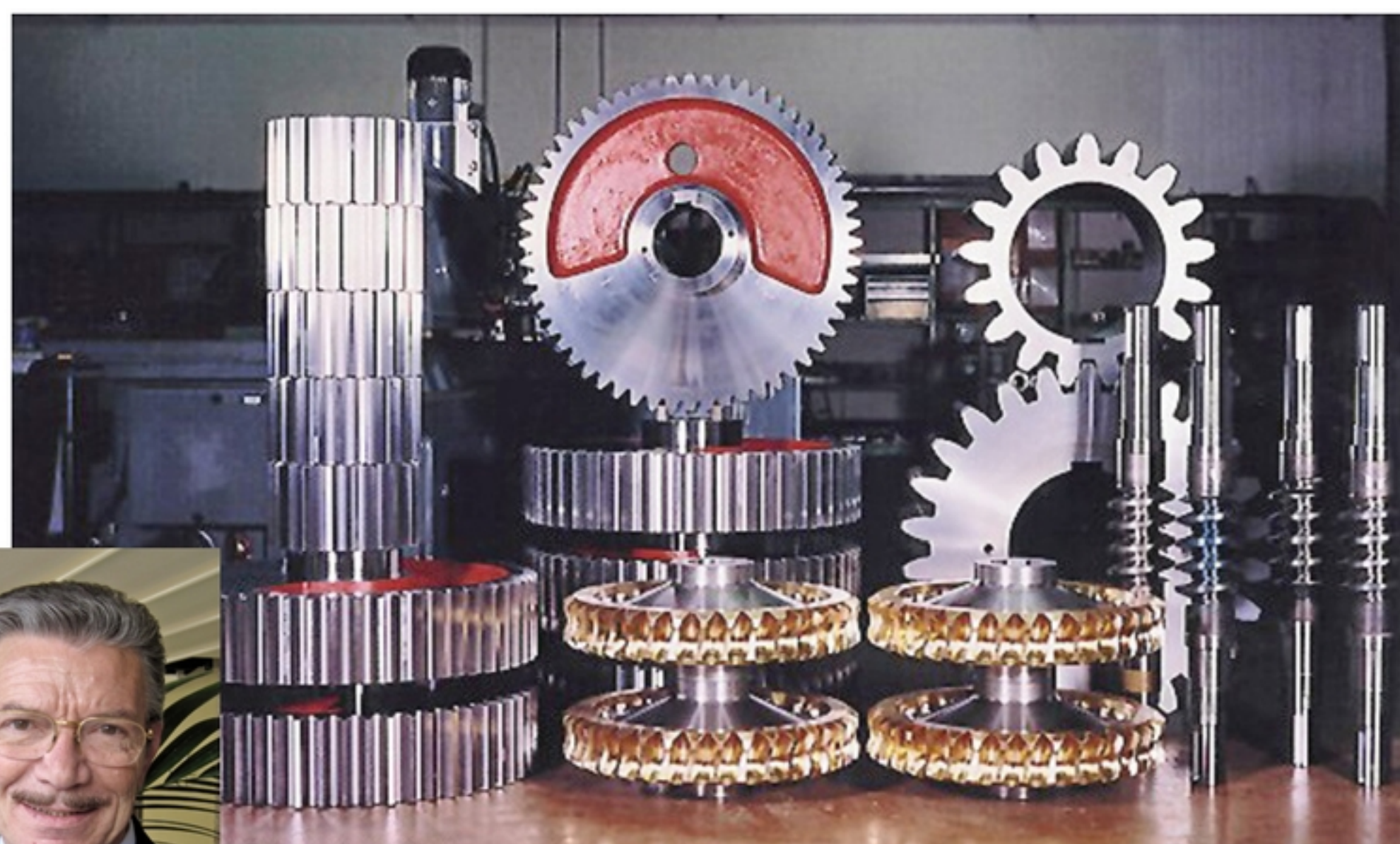
With 80 years of experience behind, the Italian company Borgonovo Ingranaggi represents a reference partner in the supply and/or design machining of all kinds of gears, with a range of diameters that go from few millimetres up to 3 metres.

by Gianandrea Mazzola

It has reached its 80th anniversary and it looks at the future with the same force and dynamism as when, in 1934, it started its growth course in the mechanics ambit. Our issue is **Borgonovo Ingranaggi**, company founded by Mario Borgonovo specialized in the supply and/or machining upon design of all types of gears. Tradition, expertise and experience merge to be at the service of various industrial fields, from the iron and steel industry to the sheet metal working, from reduction gears to the energy and textile sectors, plastic extrusion machines and packaging plants.

«I would say that we rely on a cross specialization – explains Alessandro Borgonovo, founder's son and second management generation together with his brother Augusto Borgonovo – that is to say the all-round gearing management capability, all included, from the smallest 10 mm diameter up to the much more important 3,000 mm. With the capability of working with the same efficiency both the 0.5 module and the 30 module».

Activity carried out today in two production sites, the headquarters, at Birone di Giussano (Monza Brianza), where they perform all main op-



Specialized in the production of gears of various sizes, this year Borgonovo Ingranaggi celebrates its 80th anniversary of activity.

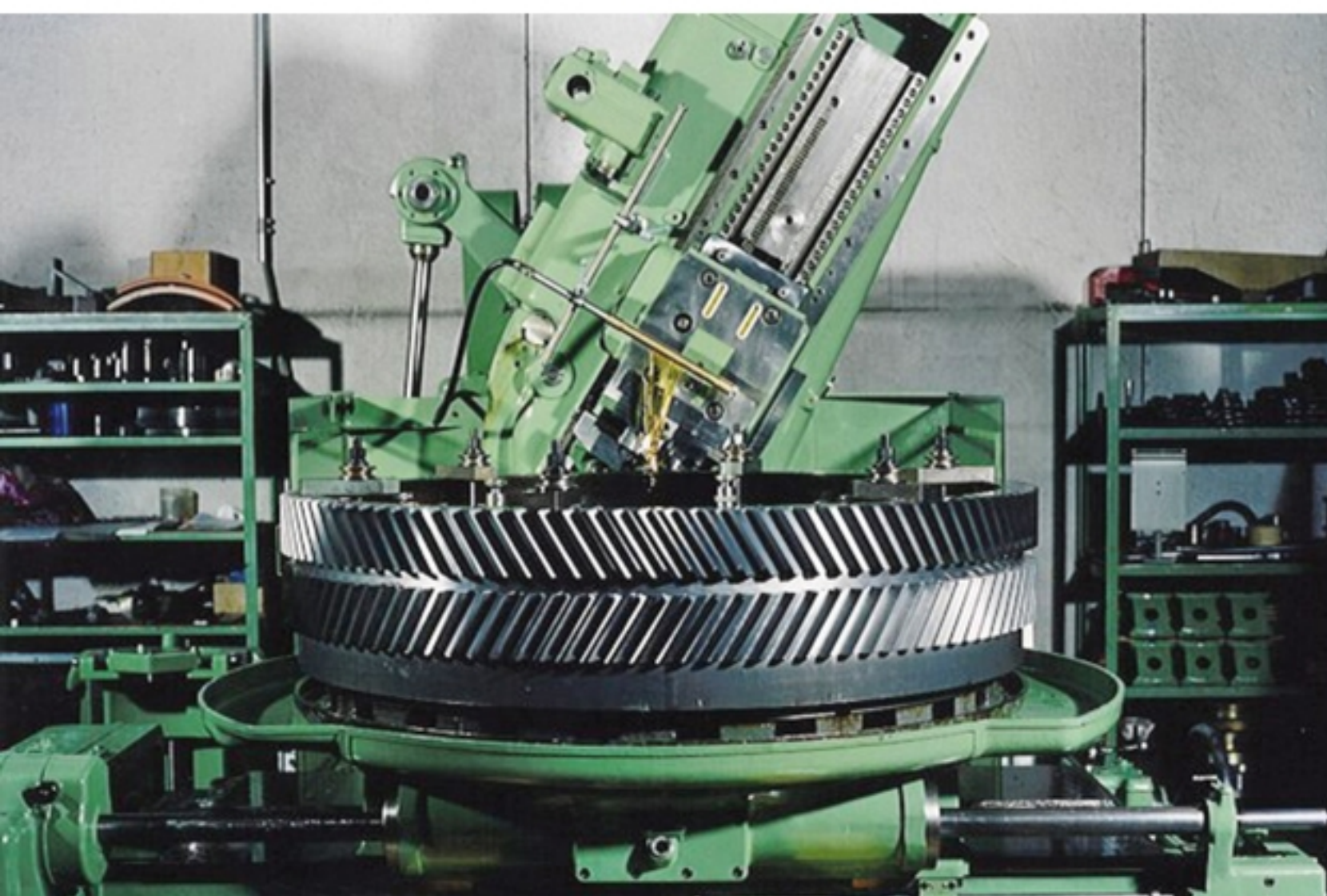
Alessandro Borgonovo, founder's son and owner of Borgonovo Ingranaggi.

erations of gear cutting, milling and grinding of gears, racks, screws and grooved parts, and a second site in the close Carate Brianza (Monza Brianza), where their prevailing activities are the raw material provisioning and turning, drilling, slotting and broaching. A productive capacity where tradition and innovation merge.

Competences and productive capacity

«When we speak of innovation in our company – adds Borgonovo – we refer to a constantly upgraded machine fleet that,

however, does not give up certain "historical" traditional-type machines, which still today allow reaching high-level results and permit excellent quality machining operations, in line with market demands». Equipment that includes numerous spur gear teeth-cutting machines (from module 1 to module 25, straight, helical, bi-helical, concave, chain gears, crown, teeth-pulley), one dozen external/internal straight-gears cutting machines (from module 0.5 to module 16), Maag teeth-cutting machines (for machining from module 1 to module 40), gears tooth grinding machines



Maag teeth-cutting machine for machining from module 1 to module 40.

Detail of gear grinding machining.



Borgonovo Ingranaggi can execute also internal gear cutting up to 1,500 mm of diameter, with module from 0.5 to 12.

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(from module 1 to module 30), horizontal cutting-milling machines (from module 1 to module 10, straight teeth, helical, module and metric threads, grooved). They are then completed by groove shaft grinding machines, worm milling and grinding machines (from module 1 to module 25) and for the gear cutting of straight and helical racks (from module 0.75 up to module 30, also of big sizes), with the addition of the rack grinding up to $M=10$. Without forgetting, last but not least, straight bevel-gears teeth cutting machines (from module 1 to module 20), flat surface grinding machines, mouth milling machines, lathes (vertical and horizontal), keyseating and spline broaching/slotting machines, hole

drilling and tool grinding machines, up to the department for the final testing of gear cutting, with evolventimeter for gears up to 2,000 mm diameter. «We started – reminds Borgonovo – designing and manufacturing the first half-metre racks even in the Sixties, then we progressed with bigger and bigger lengths up to reaching five metres of length, developing increasingly reliable and high-quality systems». Concerning bevel gear pairs, the company can implement straight teeth gears up to 900 mm of diameter; they execute then internal toothing with maximum 1,500 mm diameter, screw/crown pairs also with 2-, 3- or 4-principle screws and crown gear cutting with specific tools.

Experience and operational flexibility

With a natural bent for gears, Borgonovo Ingranaggi ranks then as outstanding reference partner on which it is possible to rely, not only thanks to the long experience gained but also due to the deep technological commitment.

«Experience, know-how – states Borgonovo – together with the innovation capability and the attention to the technological evolution are not distinct but they must necessarily go hand in hand. A synergy that we cannot give up but instead to be always considered in constructive way, to improve. In the business management as well as in the capability of implementing higher and higher quality products and, especially, state-of-the-art. A winning mix in which also the human factor plays a decisive role. It is in fact as determinant to rely on skilled, constantly trained and motivated personnel».

Ingredients that today allow the company to look at a future mainly in national ambit, without ever neglecting contacts and job orders beyond the borders, with experience on foreign markets dating back to the Eighties. Experience and flexibility in which share about thirty skilled workers who operate in the two productive units and who daily contribute to improving this great specialization course in the world of small and big size gears.

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