PRESS RELEASE

ENGLISH

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY | LIST

LIST SUPPORTS CERATIZIT WITH ITS DIGITAL TRANSFORMATION

Drawing on the expertise of the Luxembourg Institute of Science and Technology (LIST) in Data Analytics and Artificial Intelligence, CERATIZIT is stepping up its transformation towards Industry 4.0.

In January 2019, Luxembourg company CERATIZIT and the Luxembourg Institute of Science and Technology (LIST) signed a two-year partnership agreement. Between now and late December 2020, backed by its expertise in Data Analytics and Artificial Intelligence, LIST will be supporting CERATIZIT with the digital transformation of its development and manufacturing processes. This ambitious transformation project is supported by the Luxembourg Ministry of the Economy as part of financial aid to further R&D. For CERATIZIT, moving towards Industry 4.0 represents the promise of true flexibility in manufacturing, mass customization, greater speed, better quality and improved productivity.

Moving towards the digitization of processes

Digital transformation is crucial for CERATIZIT which is striving to provide customers with ever more efficient solutions in the field of carbide cutting tools with a view to consolidating its position as one of the world's leading companies. Through the digitization of its processes, CERATIZIT will be able to leverage new, smarter control models, allowing it to achieve its goals.

The Big Data collected on the processes, using ultra-precise 3D optical measurement systems, will make it possible to perform new types of analysis, such as provisional models on parts distortion during manufacturing. This will allow for the significant, continuous improvement of existing processes drawing on self-learning techniques.

Data Analytics and Big Data to the rescue

To assist CERATIZIT with its transformation, LIST aims to draw on the latest Data Analytics and Big Data architecture technologies. Together, the partners will explore various avenues with a view to improving product quality, increasing productivity and pushing technical boundaries. CERATIZIT and LIST will also review in detail the design of a new architecture to facilitate the collection, storage, use and recovery of Big Data generated during the manufacturing process, which, given its volume, requires a specific type of structure.

Big Data gathered in this way can be used to automate, optimize and enhance the reliability of manufacturing processes. To achieve this, different statistical analytics and Machine Learning approaches will be used within the framework of the partnership, which is an important step towards Industry 4.0. This is precisely the level at which the complementary nature of the CERATIZIT and LIST teams will come into its own, with one offering expertise in manufacturing processes, and the other in Artificial Intelligence and Data Analytics techniques.

Stepping up adoption at Luxembourg national level

While CERATIZIT is building and strengthening its position as leader in its core business through its digital transformation project, LIST is fulfilling its own goal of stepping up adoption of artificial intelligence technology for Data Analytics in Luxembourg companies and institutions.

This partnership is a new cornerstone in the close relationship binding the two entities in the transformation towards Industry 4.0. Since 2017, LIST and CERATIZIT have been committed to developing, by October 2020, new Physical Vapour Deposition (PVD) coatings, efficient at high temperatures – greater than 850 degrees Celsius – for high speed machining technology.

About CERATIZIT

For over 95 years, CERATIZIT has been a pioneer developing exceptional hard material products for cutting tools and wear protection. The privately owned company, based in Mamer, Luxembourg, develops and manufactures highly specialized carbide cutting tools, inserts and rods made of hard materials as well as wear parts. CERATIZIT is the market leader in several wear part application areas, and successfully develops new types of carbide, cermet and ceramic grades which are used for instance in the wood and stone working industry.

With over 9,000 employees at 34 production sites and a sales network of over 70 branch offices, the Group is a global player in the carbide industry. The international network also includes the subsidiaries KOMET, WNT, and Becker Diamantwerkzeuge, as well as the joint venture CB-CERATIZIT. As a leader in materials technology, CERATIZIT continuously invests in research and development and holds over 1,000 patents. The Group's innovative carbide solutions are used in mechanical engineering and tool construction and many other industries including the automotive, aerospace, oil and medical sectors.

CERATIZIT is active on the market through the seven competence brands Hard Material Solutions by CERATIZIT, Toolmaker Solutions by CERATIZIT, Tool Solutions by CERATIZIT as well as Cutting Solutions by CERATIZIT, KOMET, WNT and KLENK.

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY (LIST)

The Luxembourg Institute of Science and Technology (LIST) is a mission-driven Research and Technology Organization (RTO) that develops advanced technologies and delivers innovative products and services to industry and society. As a major engine of the diversification and growth of Luxembourg's economy through innovation, LIST supports the deployment of a number of solutions to a wide range of sectors, including energy, IT, telecommunications, environment, agriculture, and advanced manufacturing at national and European level. Thanks to its location in an exceptional collaborative environment, namely the Belval Innovation Campus, LIST accelerates time to market by maximizing synergies with different actors, including the university, the national funding agency and industrial clusters.