



THE NEW CONCEPT OF POLISHING
*The First **Dry** Electropolishing System*

The new concept of polishing



***"The only automated
system that improves
the results of hand
polishing".***

DLyte is a technological solution that simplifies and standardizes the post-process of metal parts, improving the finishing results obtained with traditional polishing systems.

DLyte series are new patented Machines based on patented Drylyte technology for surface finishing of metal alloys for the industry. Provides a solution to the most common industrial metals and alloys. The applications for DLyte finishing technology range from grinding, rounding and deburring to surface smoothing and high gloss polishing of high precision and aesthetic parts.

DLyte is easier, faster,
cost-efficient and reliable
than existing surface
finishing systems.



Unlike traditional polishing systems, DLyte system **obtains consistent finish** avoiding any marks on the surface, patterns such as those generated by machining, and is **able to process complex geometries without generating micro scratches on the surface**. DLyte respects the tolerances of the piece, delivering a mirror finish.

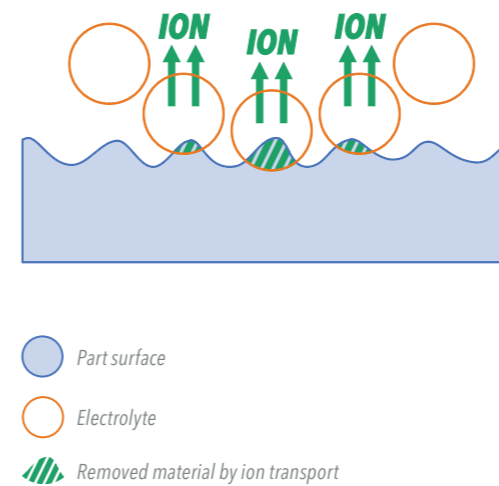


Part manufactured by CSEM

The first dry electropolishing system

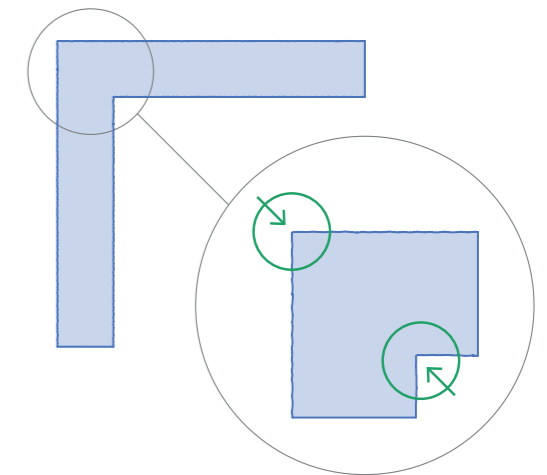
DLyte is a polishing system for metal parts that require high performance or superior finishing. A revolutionary dry electropolishing that is based in a solid media.

"The process extracts the material only from the peaks of the roughness, it does not round the edges but penetrates the internal cavities of the piece to which cannot be accessed mechanically".



- Part surface
- Electrolyte
- ▨ Removed material by ion transport

The process removes material only from the peaks of the roughness.



The process does not round edges and can penetrate the internal cavities of the piece.

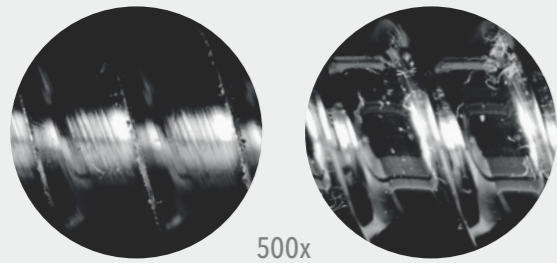
Benefits of the technology

Product benefits

Additional benefits

Process & Production benefits

Product benefits

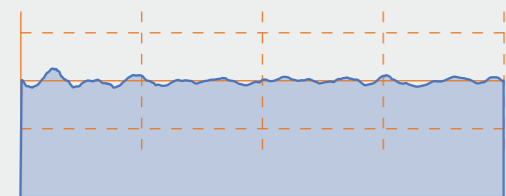


500x

The system works efficiently at micro and macroscopic level.

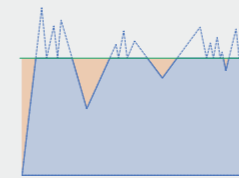


It is not rounding the edges as there is no abrasion of the surface.

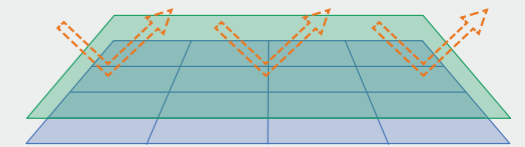


Ra under 0,05 micrometers.

Additional benefits



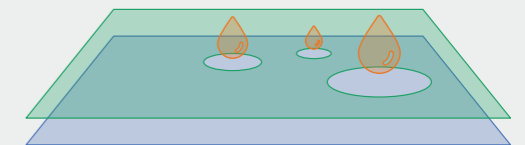
Enhances negative surface skewness (rsk) which increases the surface bearing contact area (allowing uniform lubricant film distribution) improving the bearing ratio and reducing the friction between the pieces.



Avoids generating grinding texture patterns, improving wear and fracture resistance, and improving fatigue resistance.

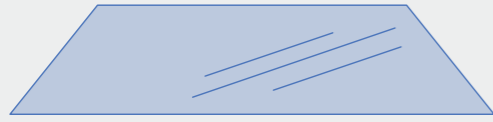


Avoids contamination on the surface and no traces of hydrogen on the surface. DLyte has proven the Biocompatibility of the products processed with DLyte System.



DLyte is the unique system able to remove roughness and improve the corrosion resistance of the metal pieces at the same time reducing the number of processes required in the manufacturing process.

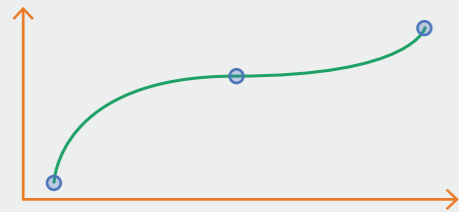
Process & Production benefits



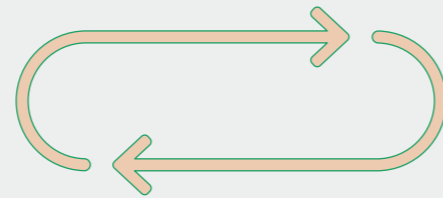
Fully automated polishing to a mirror finish in one step. Mechanical surface finishing requires several steps to achieve mirror finishing and liquid electropolishing generally reduces surface roughness readings of a non-electropolished surface by only 50 percent.



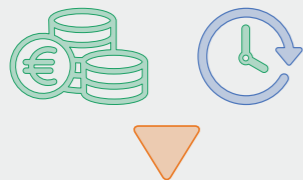
Ability to process without programming (especially important for AM). DLyte does not need geometry-specific programming as it is required with CNC high-precision grinding equipment.



Traceable industrial process. DLyte software ensures completely traceable recording of process parameters and electrolyte used in each batch.



Reproducibility and homogeneity. DLyte process guarantees stable results among different batches within the electrolyte media lifespan. There is no wear as it occurs with abrasive particles.



Controlled costs and predictable lead times. The replacement of the current manual treatment allows cost monitoring and predictable lead times.



Clean, none-hazardous and easy waste management. Abrasive processes lead to extremely dusty and noisy environment.

Proved Biocompatibility

The Medical and Dental Device sectors require clinically proven processes and products which guarantee their compliance with the most demanding safety regulations. The manufacturer must ensure that the devices meet all appropriate requirements and in particular perform a risk/benefit analysis and evaluate the biocompatibility and toxicity of the materials used.

DLyte has proven the Biocompatibility of the products processed with DLyte System.

The study has been made according to the specifications of standard UNE-EN-ISO 10993-5:2009.



Inox 316L | Sintering



HSS 1.3343 | Milling



Copper | Casting



Inox 316L | Sintering



Titanium | Sintering



Titanium | Milling



Inox 316L | Sintering



Brass | Casting



Cobalt Chrome | Milling



Cobalt Chrome | Casting



Titanium | Milling

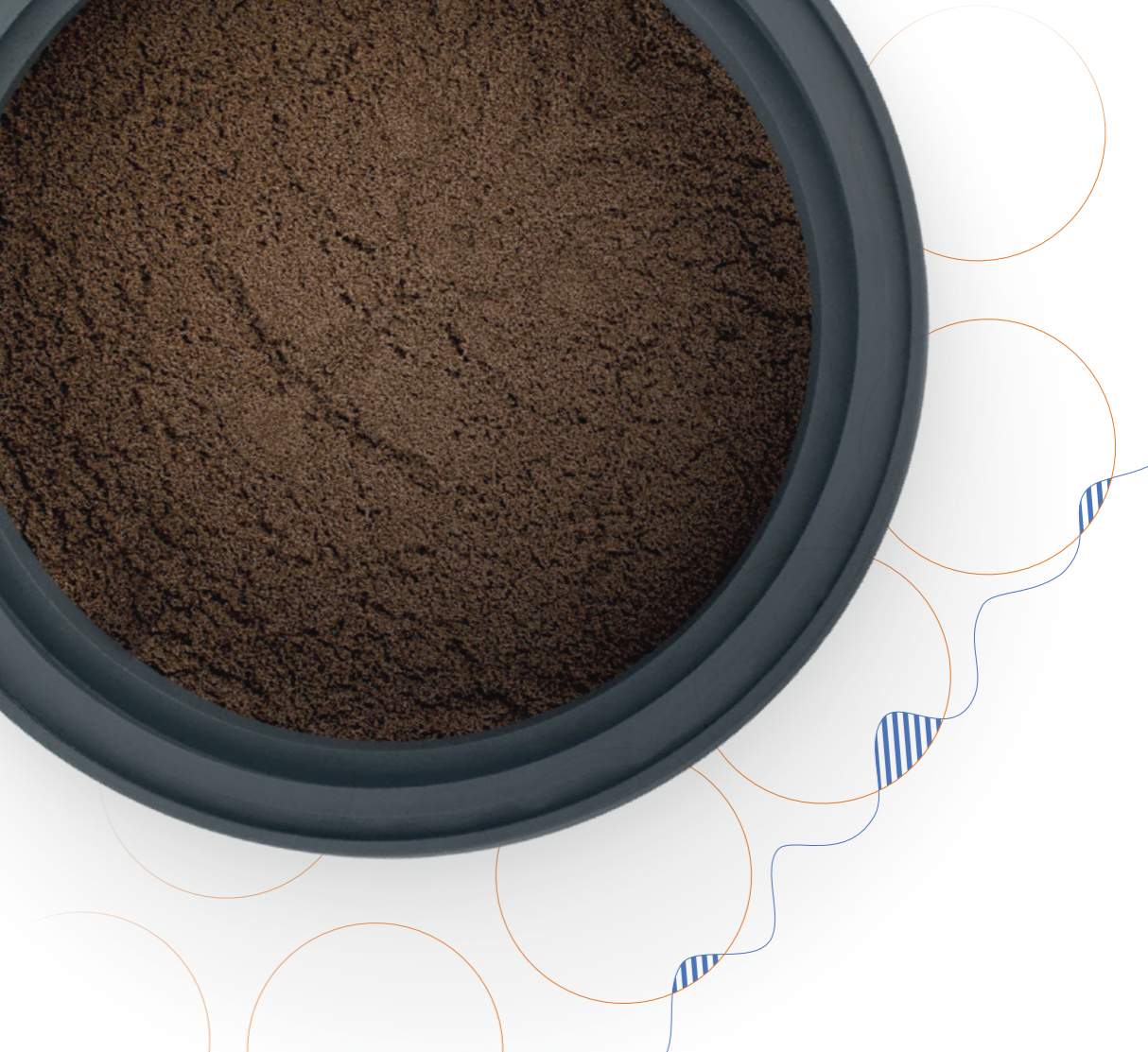
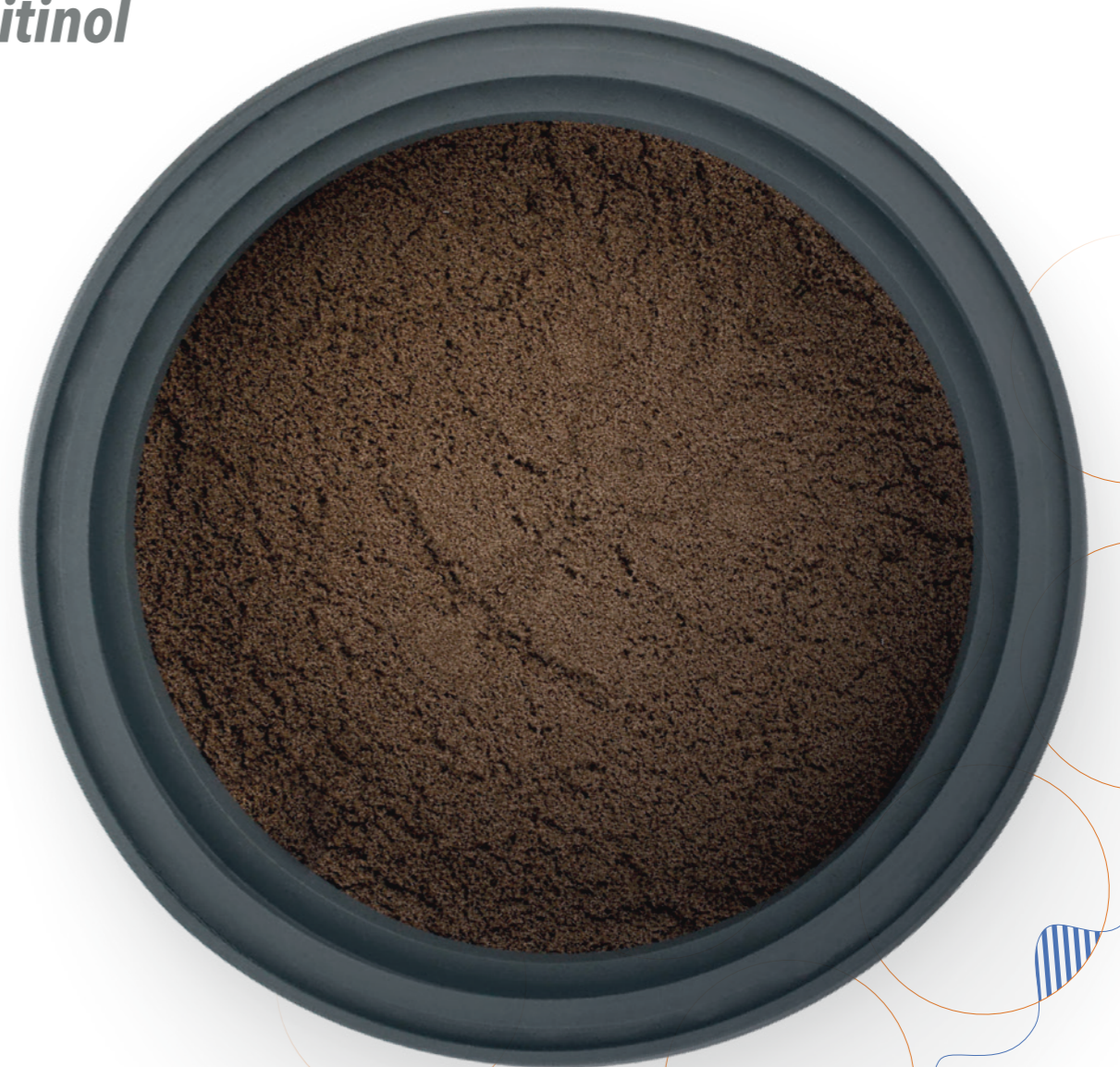


Cobalt Chrome | Sintering

Cobalt Chrome
Stainless Steel
Carbon Steel
Carbides
Nickel Alloys
Aluminium
Copper Alloys
Titanium
Nitinol

A perfect surface requires the right combination of DLyte Machine, DLyte Electrolyte Media and finishing process parameters. We have a wide range of DLyte Electrolyte Media to ensure your workpieces look exactly how you want after processing.

This helps us achieve the perfect processing result for you, regardless of whether you require. Our expert guidance and technical advice are essential for an optimal process.



DLyte® Services



Training and consulting



Full service package



Warranty extension package



Software updates

From small to large productions

According to polishing needs, production quantities or piece dimensions, DLyte offers a unique solution to meet the needs of the industry.

The entire product range allows automation of the polishing process ensuring high scalability production.

SOLUTION FOR MASS PRODUCTION, COMPLEX & LARGE GEOMETRIES

DLyte systems are designed to be integrated in any industrial chain process.



DLyte1

DLyte10

DLyte100

DLytePRO500

Compact Series

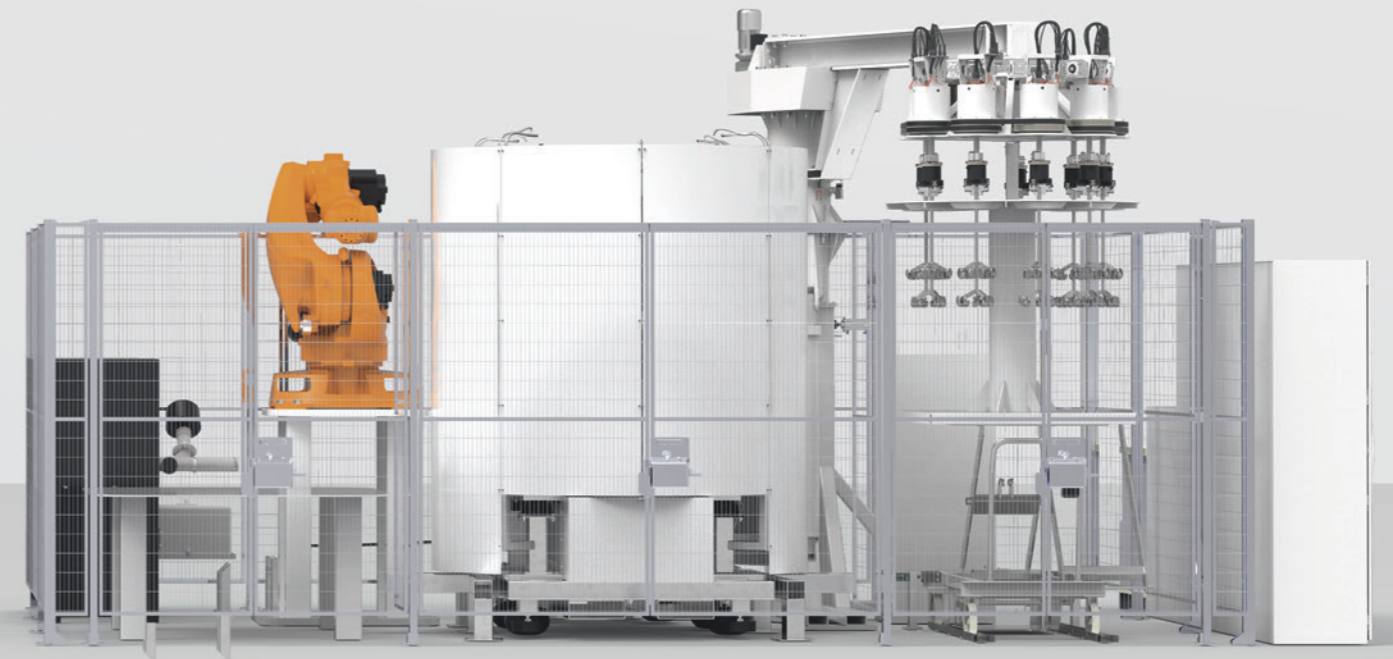
PRO Series

75 Ø x 50mm*

120 Ø x 50mm*

180 Ø x 80mm*

750 Ø x 330mm*



DLyte10.000

Customized Solutions

1400 Ø x 900mm*

* Maximum size per piece permitted for each model.

We tailor solutions to your needs

We suit our DLyte Technology to cover your needs.

- Polishing constraints won't be your limitation anymore.
- Just contact us, we'll do the rest.

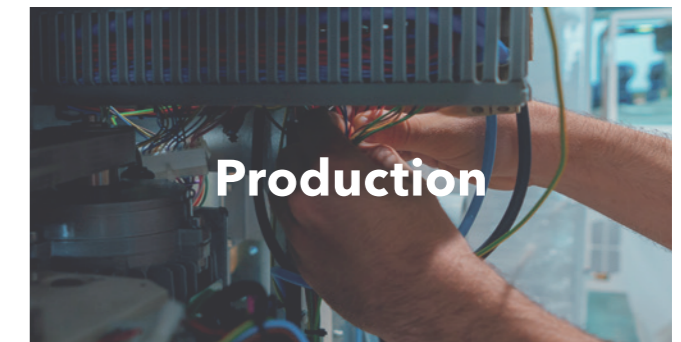
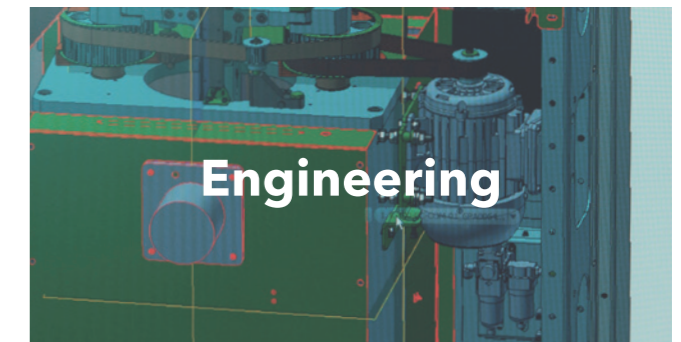


Custom project development

1. Polishing needs: concept and goals
2. Polishing assessment: real tests with DLyte technology
3. Customized engineering development
4. Production phase
5. In-house validation
6. Onsite installation
7. Service

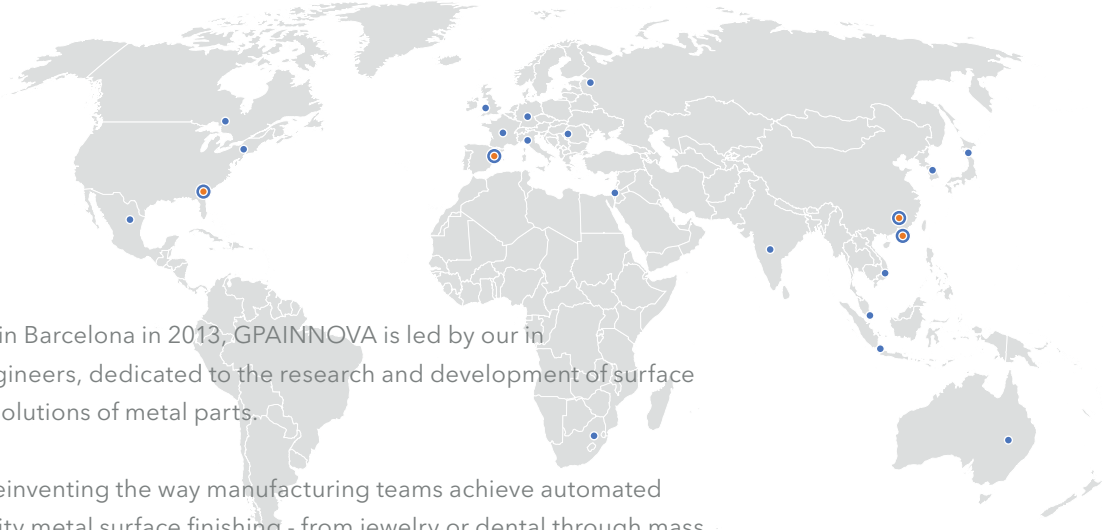
We offer advanced services all around the world throughout the life cycle of your product. From engineering services for the development of surface finishing processes, to training, on-site consulting, machine set up, new production setup, technical service and spare parts, advanced training for operation and maintenance of the equipment and services in the digital field to enhance machine availability

and optimise manufacturing processes. A comprehensive solution including tools and fixtures, process programming, production simulation and support, as well as integration in the production chain, loading/unloading, etc.



The company supports you onboard your Dlyte experience to assure a success with its unique surface finishing technology.

GPAINNOVA



Founded in Barcelona in 2013, GPAINNOVA is led by our in-house engineers, dedicated to the research and development of surface finishing solutions of metal parts.

DLyte is reinventing the way manufacturing teams achieve automated high-quality metal surface finishing - from jewelry or dental through mass production. DLyte is a brand of GPAINNOVA, a company specialized in the development, production and commercialization of solutions for the different industrial fields like surface finishing or marine preservation industry.

DLyte develops, produces and commercialize advanced surface finishing machinery, accessories and media based on Dry electropolishing technology for customers around the world from almost every sector of industry.

Uniqueness

DLyte is the unique technological solution based on Drylyte technology that automatize, simplifies and standardizes the post-process of metal parts, improving the finishing results obtained with traditional polishing systems.

Excellence

DLyte offers advanced services to our more than 200 customers all around the world throughout the life cycle of the product. From engineering services for the development of surface finishing processes, to training, on-site consulting, machine set up, new production setup, technical service and spare parts.

Innovation

Since our foundation, our main goal has been to revolutionize surface finishing industry thanks to cost-effective, resource efficient and timely production technologies.

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