

PRESS RELEASE

**Important partnership between INORI-CIRTES and MECANUMERIC
in Additive Manufacturing**

**CIRTES at the origin of the 3D digital packaging process Pack&Strat® and
INORI, in charge of distribution,**

**choose MECANUMERIC, French leader in CNC machines,
to manufacture the new line of 3D (outer/inner) packaging stations.**

**MECANUMERIC also contributes to the sale of the range of stations
through its large sales network in France and abroad.**

Pack & Strat®
Original patented process **CIRTES France**



***An alliance to meet the major demands of the international market
and offer an innovative product***

100% French: process - software - machine

<https://youtu.be/GSrzUavq79U>



DESIGNED AND MANUFACTURED IN FRANCE

The 3D digital packaging process Pack&Strat®

The Pack&Strat® process (<https://youtu.be/GSrzUavq79U>) is developed by CIRTES from its native Additive Manufacturing patented process Stratoconception®.

After its widespread use in the domains of transportation, energy, health, design, luxury goods, construction, etc., the Stratoconception Additive Manufacturing process has enabled CIRTES teams to develop and patent the 3D digital packaging 3D Pack&Strat® and to grant the distribution to its subsidiary INORI SAS.

INORI distributes the 3D digital packaging process (process, software and machine) by Additive Manufacturing (AM) with no equivalent, developed by CIRTES and protected by an internationally granted patent. INORI has successfully launched its commercialization since 2018 from prestigious reference clients such as BUGATTI, SECO Tools, GE Healthcare, LP Art, Packing Dispatch, CDTA Alger, ... INORI is offering in 2021 a new range of dedicated stations (100% French process - software – machine).

From the digitization of the shape of the object to be packed, the process makes it possible to offer a unique solution of perfect custom-made 3D inner packaging, in corrugated cardboard or recyclable foam, for high added-value products per unit or small series. This is the world's first patented digital ADDITIVE MANUFACTURING process dedicated to 3D PACKAGING. 3D digital inner packaging is performed directly from the CAD of the product or from the 3D scanning of the real object. It is a 100% French solution, process, software and machine.

The resulting 3D outer/inner packaging is made mainly from corrugated cardboard plates, it is a green process, perfectly adapted to the part, it secures transport, enhances the product and minimizes the packaging volume. The process is very fast, it is controlled by our proprietary software, very ergonomic.

With the support of CIRTES, INORI has just developed in 2021 a new range of Pack&Strat® stations entirely dedicated to the process and the software. Two models, manufactured in partnership with the French manufacturer MECANUMERIC, have been on the market since September 2021. MECANUMERIC also contributes to the distribution of the range of stations via its sales network in France and abroad.

An alliance between INORI-CIRTES and MECANUMERIC to meet the major demands of the international market and offer an innovative product, 100% French process - software – machine.



ANNEX

What about Stratoconception

Stratoconception® is the forerunner French additive manufacturing (or 3D printing) process, one of the 7 standardized processes that exist in the world. The process initiated by Claude Barlier in the 1980s, patented in 1991, has been developed and marketed for 30 years by CIRTES in Saint-Dié-des-Vosges.

The process consists in using software to decompose the CAD model of the part into a set of elementary 3D layers, called “strata”. These layers are put together and manufactured from a material plate (corrugated cardboard, foam, wood, metal, etc.) from cutting by rapid micro-milling, laser or cutter. The layers are then nested and assembled to reconstruct the final 3D object. The plates are large industrial standard formats.

The process is very fast. It is particularly suitable for models, prototypes but also for tools, even series parts and for packaging. It is without limitation of interior or exterior shape, without limitation of size (from a few millimeters to several meters). It does not require any finishing postprocessing.

The process is available in products (process-software-machines) and applications. The software is proprietary, the StratoPro® software uses STL formats and the TopSolid’Strato® software allows direct use of the native TOPSolid CAD files. A wide range of machines is available in semi-automatic or fully robotic versions (Strat’AUTO®). More than 800 stratoconception solutions are currently in use around the world.

The Stratoconception® process is thus at the origin of the Pack&Strat® process.

Companies meeting

Exchanges between CIRTES and MECANUMERIC have existed for 30 years, the companies have been partners for the manufacturing of stations for a long time and particularly through the company CHARLYROBOT, since 1991.

About CIRTES

CIRTES SA is a company with the Contractual Research Structure (SRC in French) label. Created in November 1991 by Claude Barlier in the heart of the industrial basin of Saint-Dié-des-Vosges, CIRTES also has an establishment in Carmaux, in the southwest of France.

CIRTES has been a pioneer and leader in Additive Manufacturing (AM), Subtractive Manufacturing (Advanced Machining) as well as new digital technologies for Rapid Product Development (RPD) for 30 years.

Based on its patented research, Additive Manufacturing by Stratoconception®, 3D rapid packaging Pack&Strat® and Machining Monitoring Actarus®, CIRTES aims to develop industrial Research & Development contracts, to manufacture models and tools and to market its software solutions and the associated machines.

CIRTES also carries out technology transfer missions for the integration of the digital chain of Rapid Product Development in companies and mainly in SME and VSE. CIRTES offers companies training and a hotline on its processes and professional training in additive manufacturing and the digital chain, on its site, with operational experience.

CIRTES has granted the distribution of the Pack&Strat® process to its subsidiary INORI SAS.

About INORI

INORI SAS, labelled as innovation platform, specializes in the industrial, technical and economic qualification of technologies, products, processes, new activities, for the Industry of the Future and additive manufacturing. It accelerates the transition from R&D to Industrialization and then to the distribution of solutions and to series production. It is located at the VirtuReal cluster in Saint-Dié-des-Vosges alongside CIRTES and InSiC.

Since 2017, INORI has industrialized and marketed Pack&Strat®, the 3D digital packaging process by Additive Manufacturing Stratoconception initiated, developed and patented by CIRTES. An 100% French innovative product.

INORI activities linked to Pack&Strat® concern:

- Sales of dedicated Pack&Strat® stations: Hardware, Software and Services
- Pack&Strat® Process and Software integration on client machine park
- On-site P&S packaging manufacturing services (feasibility, prototypes, series).

In 2021, INORI is offering a new range of Pack&Strat® machines entirely dedicated to the process and the software.

About MECANUMERIC

MECANUMERIC has been a French manufacturer of machine tools since 1994, very diversified into three main sectors:

- Industry (MECANUMERIC, MECAMATIC and Digital Control brands),
- Education (CHARLYROBOT and MECANUMERIC brands),
- Medical (dental with CHARLYDENTAL brand) and podiatry ...

For 27 years, more than 14,000 machines have been produced and delivered to around 60 countries.

MECANUMERIC, created and managed by Arthur PAIS who has more than 36 years of experience in the design of CNC machines, is a private company of 150 people, 100% integrated on its brand new industrial site of 13,000 sq.m in Albi in the South-West of France and able to achieve:

- Design
 - Mechanical studies
 - Electronic studies and automation
 - Software studies (firmware, applications and HMI, etc.)
- The manufacture of parts and sub-assemblies:
 - Mechanical welding
 - Painting
 - Machining
 - Wiring of electrical cabinets
- Final assembly of machines and testing
- Delivery, installation and training
- After-sales service and machine upgrades for customers.

MECANUMERIC controls on its CNC machines, the technologies of High Speed Milling, Waterjet cutting, Knife cutting, Laser cutting and marking, thermoforming and polymer baking. Its flexibility and responsiveness allow it to produce both standard machines and custom-made machines according to the needs of customers or partners.

What does this alliance represent?

An alliance to meet the major demands of the international market and offer an 100% French innovative product: process - software - machine.

An eco-responsible approach, a Green process!

The Pack&Strat process is clean, it saves energy and materials by using only what is strictly necessary to produce packaging, it minimizes waste. It uses recyclable or biodegradable materials, from standard commercial plates.

An improvement in the quality of life at work!

Pack&Strat has a favorable societal impact with the strengthening of the role of people in the design and manufacture of packaging, an increase in staff skills and an improvement in the ergonomics of the workstation.

The VirtuReal cluster supports the implementation and integration of the Stratoconception process by providing young engineers from InsIC, qualified in the process and the digital chain.

Open up endless perspectives!

Pack&Strat opens up the field of possibilities for custom-made packaging, personalization, integration of features, ...

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