SMART FARM
BY HANDDDLE

From individual production tool, to real production unit.

Achieve manufacturing efficiency by operating production in smart environments is the next step toward Factory Floor Revolution and Data-Driven Manufacturing Strategies.

⊕

THE PROBLEM

3D printing production environments don't meet health and safety requirements and leave repeatability aside.

Handdddle identified a major problem in current AM facilities: multiple fleets of 3D printers have spread into environments where there was no manufacturing before. As a result, infrastructures are not adapted in terms of security and the production is constantly disrupted by external disturbances which brakes deployment of larger-scale distributed production.
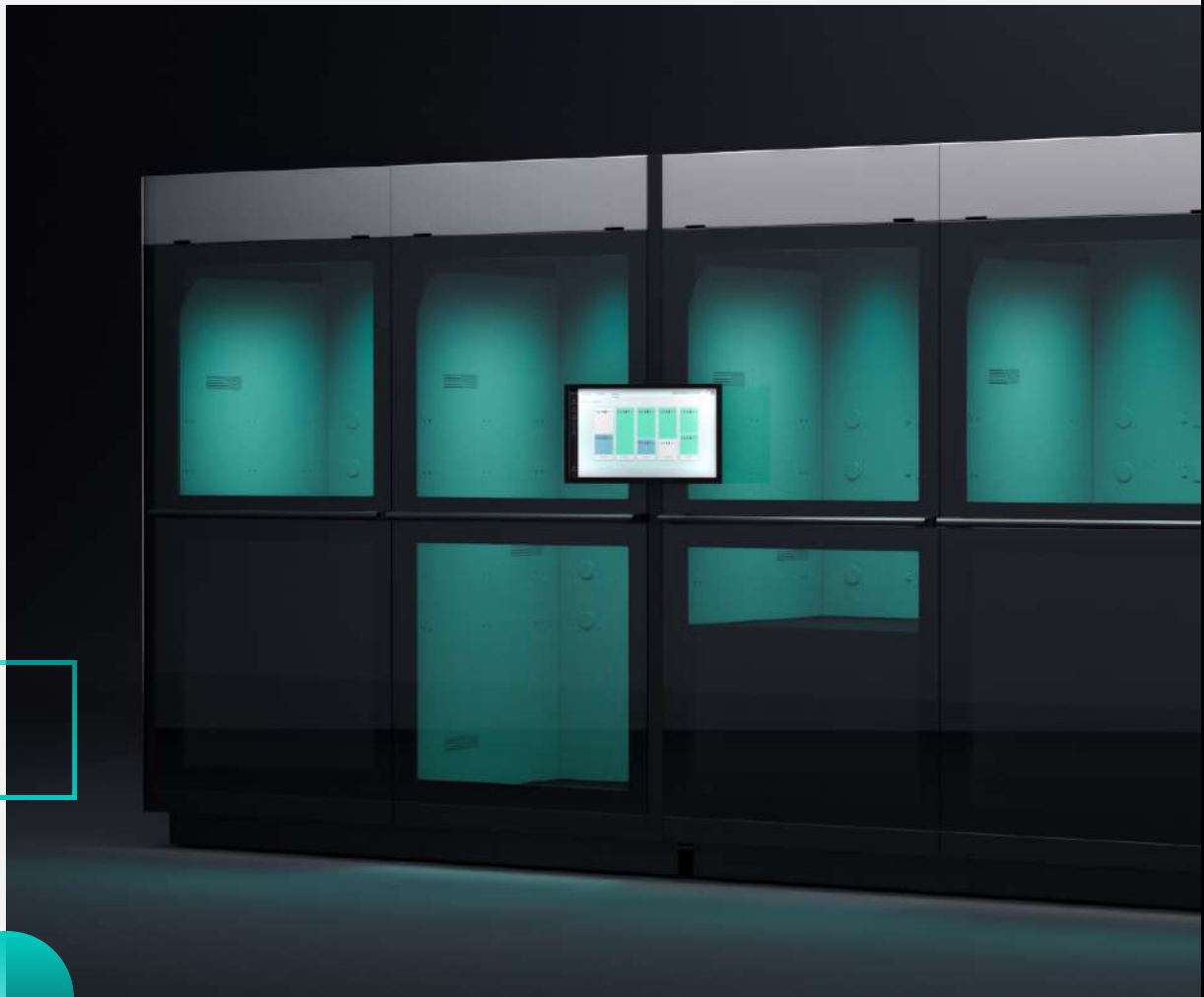
Previously, no industrial solution was developed to solve this problem. So we have developed a new generation of Micro-factories to address Industrial Production scale challenges and bring AM facilities to a new level of industrial quality and competitiveness.

THE SOLUTION

Monitored and controlled production environment solves safety problems and improves repeatability by nearly 40%.

Smart Farm is designed to achieve manufacturing efficiency and quality without production-disrupting events. It guarantees that printers are operated within industry standards and produced under secure, optimal and consistent conditions. Combined with Handddle APP (MES) production and resources software, you can easily manage everything that comes in and goes out of your micro-factory.

Smart environment benefits.

Mastering environmental parameters during production will be the key to producing quality parts on a larger scale with 3D printing.
When the manufacturing process can be affected by external disturbances, this level of smart environment leverages production data brought by Smart Farm to intelligently automates environment monitoring and management helping to solve the standardization, traceability and certification requirements of modern factories.

ATMOSPHER UNDER CONTROL

Automated monitoring and management of production environmental parameters to ensure 3D printers operate within industry standards.

POLLUTION LEFT BEHIND

Optimal risk management to guarantee the safety of users in all circumstances regardless of where the printers are installed.

MICRO-FACTORIES PRODUCTION MANAGED

Resources deployed in the micro-factory are centralized on the same platform to allow efficient production management.

MATERIAL INTEGRITY

Materials are stored in the right conditions to guarantee reliable production input.

MADE THE SAME WAY, ANYWHERE

Factory-ready production unit to implement quickly the next generation of distributed manufacturing.

Deploy easily intelligent, organized and controlled 3D production.

Get the highest results while using your 3D printing ecosystem. With our fully programmable production units, you can build a compliant solution that meet the requirements of your industry.

CONFIGURE

Flexible and modular, Smart Farm adapts easily to your equipment and bring a lean manufacturing approach to your facilities.

DEPLOY

No works needed, the units connect to each other to settle in all types of environments in the blink of an eye.

QUALIFY

Adopt a qualification reference frame for your production environments to meet your industrial requirements.

OPERATE

Produce consistently with your tools without compromising disruption and safety.

Making **Smart Farm** pleasant to use.

ERGONOMICS

Smart Farm allows 180° accessibility around your equipment, while protecting the people around. Thanks to the kinematics of its doors, it facilitates movement between each unit.

NEAT

Thanks to its design, Smart Farm greatly improves the quality of your installation by bringing a lean manufacturing approach. It allows you to use your printers in the best working environment made for 3D printing technologies.

HIGH-STANDARD

We have selected quality materials to ensure you get the best 3D printing setup. Constructed from an aluminum frame, this robust solution is made for industry
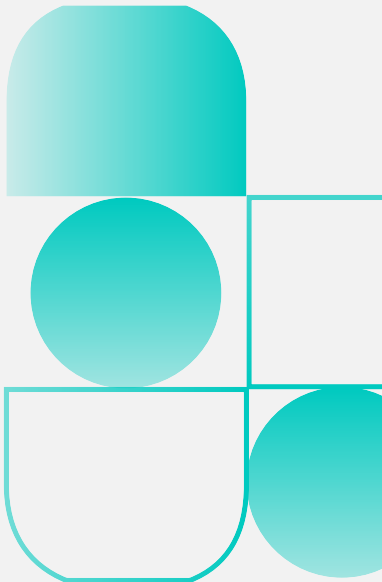
SUPPORT TEAM

Handddle has created a team of experts to respond quickly and effectively to questions from our users. These specialists can be reached by pressing a button on Handddle APP or by calling or chatting with our support team.

ENGINEER EXPERIENCE

It is because we come from the field and we know the challenges of 3D printing production almost as well as you do, that we have created a solution that puts engineers at the center of our concerns.

Even today, no one makes the user experience with their 3D printers more powerful every day like we do.

With our solution, we support the gradual increase in skills of the engineers of today and tomorrow.

Plug-and-play, and Agnostic as well.

From printers, materials to post-processing tools, use Smart Farm to deploy your 3D printing ecosystem in one dedicated enclosure. Agnostic, all desktop printers can be installed in it with a unique environment for each process, is as simple as that. The system only requires a simple power outlet and internet connection to operate.

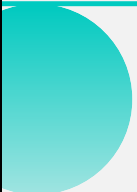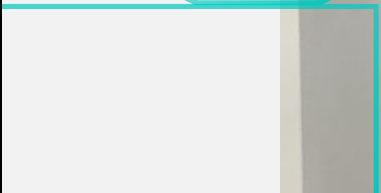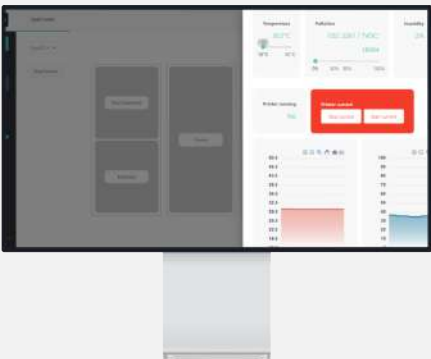## Using our data in your digital ecosystem?

PROTOCOLS

Let's connect your printers, MES or PLM tools for a better management of complexity and a reduction of disturbances to manufacture constantly with a system organized according to a real time network of communication. By coordinating all the resources of your micro-factory by the most efficient way possible, this will bring you new productivity gains and optimization.
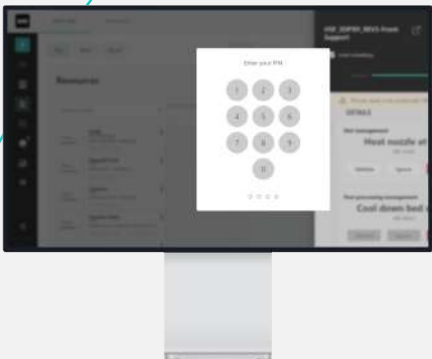
API

OPC UA

MTConnect®

PARTNER WITH

Markforged

KEY FEATURES

PRODUCTION ENVIRONMENT MANAGEMENT

Manage manually or automatically environmental settings : temperature, humidity and filtration.
Define thresholds, you are informed when they are exceeded.

DOORS OPENING CONTROL

Control access to printers, user identification is required to unlock the door. All interactions are tracked during production. This also allows access to the printers when safety conditions are met.

PRODUCTION MANAGEMENT (MES)

Let Handddle APP manage your production planning, from date proposal to adjustment in real time thanks to smart scheduling feature.
Follow your stock level and consumption, define user rights to better control the access.

MULTI-SITE PRODUCTION

Visualize all your organization's performances, production capacities and needs with a global and local approach. Dispatch your production and pool your resources.

SAFE ENVIRONMENT

CONTAIN

- Keep nano-particles and hazardous gases in the sealed and insulated unit.
- Controlled accessibility thanks to the HANDDDLE APP to limit contact with pollutants during production.
- Automated depollution phase before user intervention.

ANALYSE

- Real-time analysis of pollutants with embedded Smart Sensors technology:
  - 0-1000µg/m3 (Particles)
  - PM1.0, PM2.5, PM4 & PM10 (Particles)
  - 0-1000ppm (TVOC)
- Control of OELVs (Occupational Exposure Limit Values).
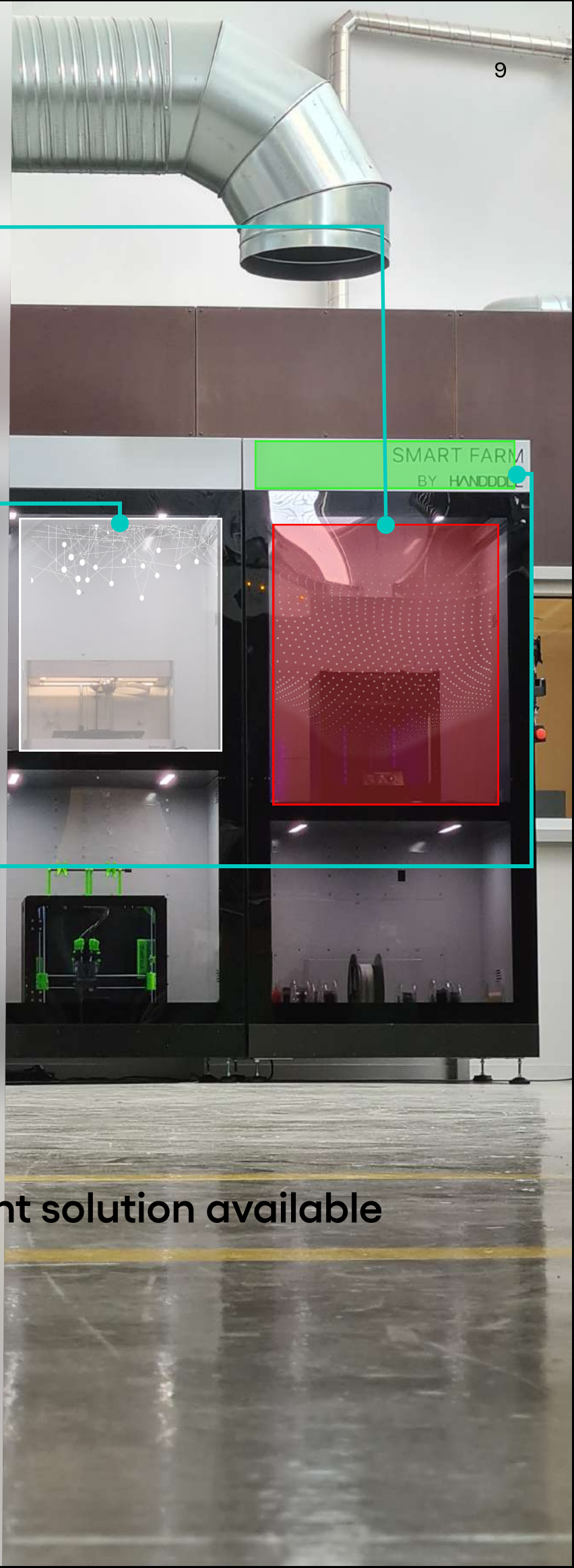- Exposure alerts for the user.
- Traceability.

FILTER *powered by* MANN+HUMMEL

- Integrated extraction system (output air flow: 110m3/h).
- Volume vaccum < 2 minutes.
- Very high efficiency triple layer industrial filtration unit:
  - Pre-filter: Airpanel select filter
  - Activated carbon filter: Carboactiv Pocket filter
  - HEPA14 filter: Nanoclass Square Eco Filter

One of the most efficient solution available on the market.

Smart Farm offers 3 levels of action for optimal risk management, guaranteeing user safety in all circumstances.

INDUSTRIAL MICRO-FACTORIES

Get the best 3D printing facility with Smart Farm and boost your printing capabilities to get the highest results using while your printers.

From 10 000€*

Exterior
H 2400mm x W 1100mm x D 990mm

Opening footprint
W 1100mm x D 1800mm

Internal
from: H 700mm x W 1000mm x D 880mm
to: H 1920mm x W 1000mm x D 880mm

Power requirements
230V 50Hz

Weight
130kg (without machine)

Modularity
From 1 machine to 3 machines per unit

Temperature range
From 20°C to 50°C

Minimum humidity percent
Below 20%

Noise level
From 30dB to 50dB

Connectivity
Ethernet & USB ready

*Without options, software licence. Setup & delivery not included. Non-contract price.

The company.

PROFILE

HANDDDLE

OVERVIEW

Founded by 3 software and manufacturing professionals with a passion for technology and innovation, eager to use their skills to solve one of the most important problems of the next industrial era. How can manufacturers be assured that their 3D printing production processes can print industrial compliance parts?

To adress this challenge, Handdddle has been working for the past two years to develop a set of Industrial IoT and Microfactories technologies. Our industry-ready solution enables users to intelligently collect data and analyze workflows to assess process quality and predict the performance and industrial capabilities of a 3D production line.

FOUNDING TEAM

Thomas BOURGOIN
CEO
Engineering -
3D Printing Expert

Dylan TALEB
COO
Business -
Innovation program

Pierre MARIGO
CTO
PhD -
Machine learning & A.I

AWARDS

Start Up Trophée
European AM conference -
2021

7th best start up of the year
3D natives - 2021

Start Up Trophée Finalist
3D Print Show Paris -
2021

Innovation for production quality
Formnext - 2021

CUSTOMERS WHO MUST BE NAMED

ARMÉE DE L'AIR & DE L'ESPACE

GRYP YOUNGTIMERS PARTS

cesi ÉCOLE D'INGÉNIEURS

Arts et Métiers

I2M INSTITUT DE MÉCANIQUE ET D'INGÉNIERIE

LOCATION

Headquartered in Bordeaux, NA
Officies in Toulouse, OC
FRANCE

FINANCIAL

€ Bootstrapped, BNP, Région Nouvelle Aquitainte, Aquiti, Michelin Developpement

HANDDDLE

HANDDDLE

Esplanade des Arts et Métiers
33400, TALENCE
FRANCE

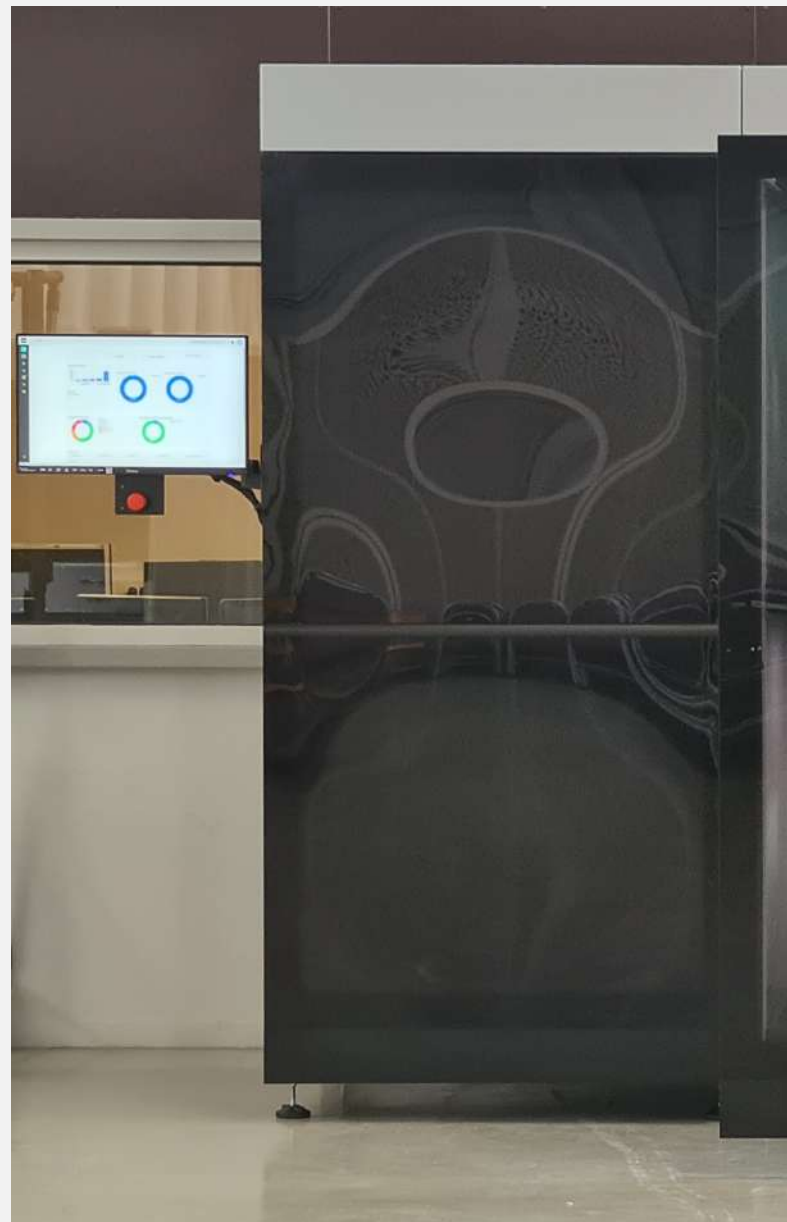**CONTACT**

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