



*Together we achieve your goals*



| Shareholder & Consultant Prof. Dr.-Ing. Daniel Eggerath |

*„The market needs companies that bring new momentum with innovations based on a solid foundation of knowledge. This is why I enjoy working on challenging processes at FMP and implementing them with solid machine technology. The sustainable creation of value for our customers in the field of coating and drying technology is our top priority at FMP Technology.*

*„I am convinced of the innovative technology of FMP and the resulting advantages for our customers. The potential of FMP motivates me day by day to provide our customers with the decisive technological lead“*

| CEO Dipl.-Math. Jutta Eckl |

FMP Technology builds innovative industrial turnkey **coating and drying machines** specifically tailored to your needs. Whether you would like to increase process efficiency, increase product quality or need to solve a technical problem, FMP will help you identify and manufacture **the ideal solution**. Our interdisciplinary team offers expertise from many different fields and covers the entire range of process analysis, simulations & calculations, feasibility studies, engineering and constructing machine parts and plants. With FMP as your partner you can expect **deep process know-how**, longstanding experience with global partners from numerous industries and **high-tech precision**. FMP will increase the value of your process and make you **technology leader** in your field.



HEADQUARTERS IN ERLANGEN

MADE IN GERMANY, MANUFACTURED FOR THE WORLD.

*Our **tools** for  
your perfect **solution***

### **Precision Coating Systems**

- Customized slot-dies
- High cross-web precision
- Complete coating stations

### **Innovative Drying Systems**

- Patented drying technique
- Perfect for sensitive coatings
- Short dryers, high efficiency

### **Profound Process Know-how**

- Process analysis
- Simulations & calculations
- Feasibility studies

# FMP COATING MACHINES



Slot-die, positioning system and feeding system highly coordinated with each other

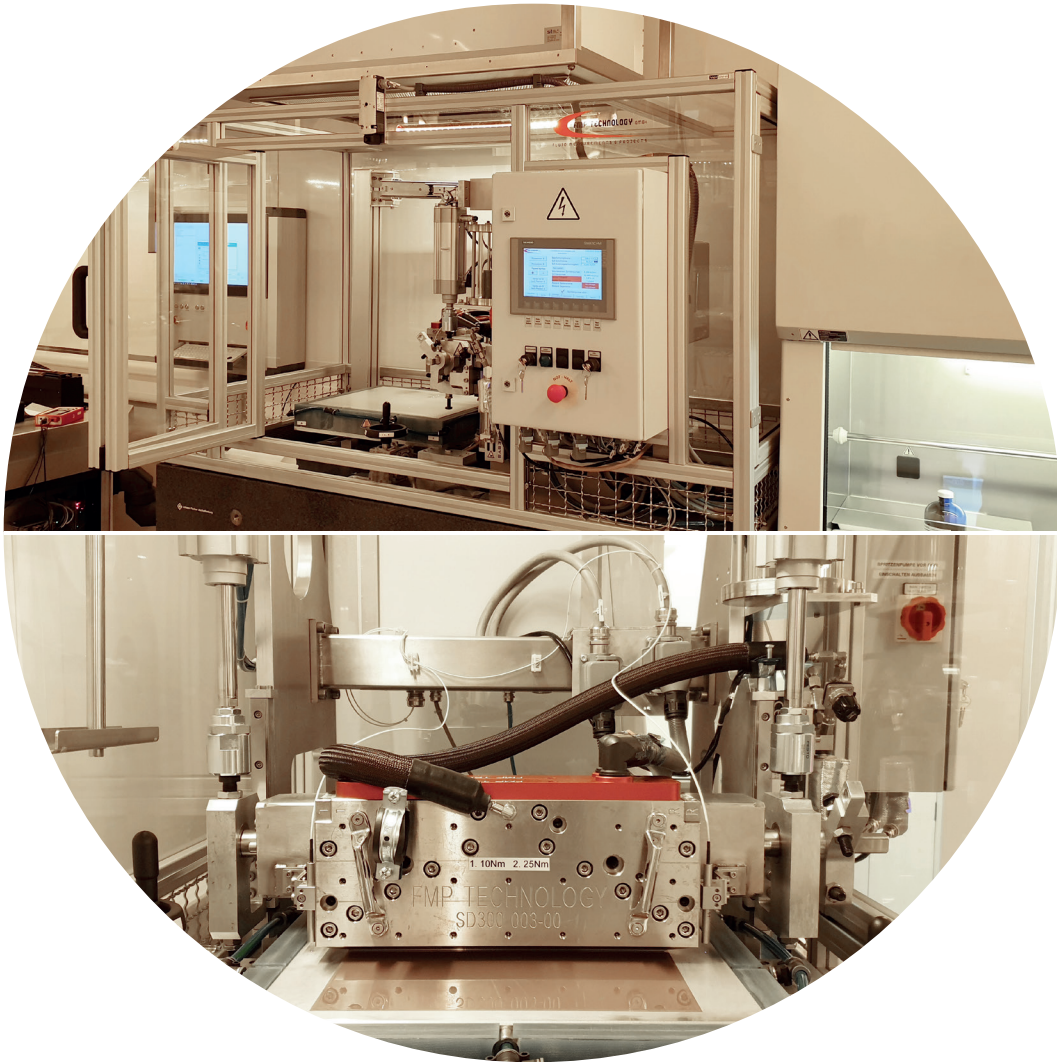
# SLOT DIES



High quality  
coatings for high  
quality products

The **highly accurate** FMP slot-dies are **fully customized** to your coating needs. From individual slot die components to entire coating lines, FMP is able to **fulfill your needs** and deliver exactly what you need for a **maximum possible cost-benefit-ratio**. Due to FMP's process know-how, all equipment is specifically aligned to the task at hand and **perform to the highest standard**.

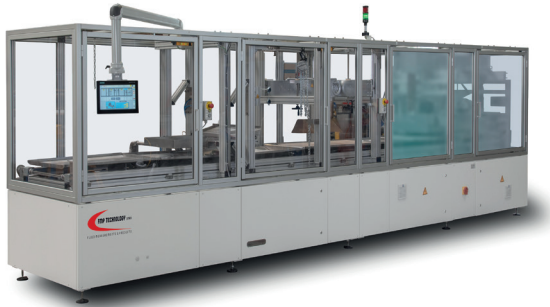
- **Width:** 10 mm - 2500 mm
- **Cross web distribution accuracy:** ±1%, ±3% or ±5%.
- **Chamber design:**
  - Infinity
  - Flexcon, Flexcon<sup>2</sup>
  - Fan
  - Ring
  - Customer-specific special solutions
- **Application:** Extrusion, Bead, Web-tension and Curtain Coating Mode
- **Options:**
  - Heating systems
  - Special design for highly filled media
  - Fixed or flexible lips possible
  - Automatic or manual slot gap adjustment
  - Various body materials and surface coatings
- **Peripheral equipment:**
  - Coating station for laboratory and industrial applications
  - Fluid feeding system
  - Flushing system
  - Assembly trolley



High precision FMP nano-coating line

## COATING LINES

Sheet to sheet  
Roll to roll  
High speed curtain coating  
High precision nano coating



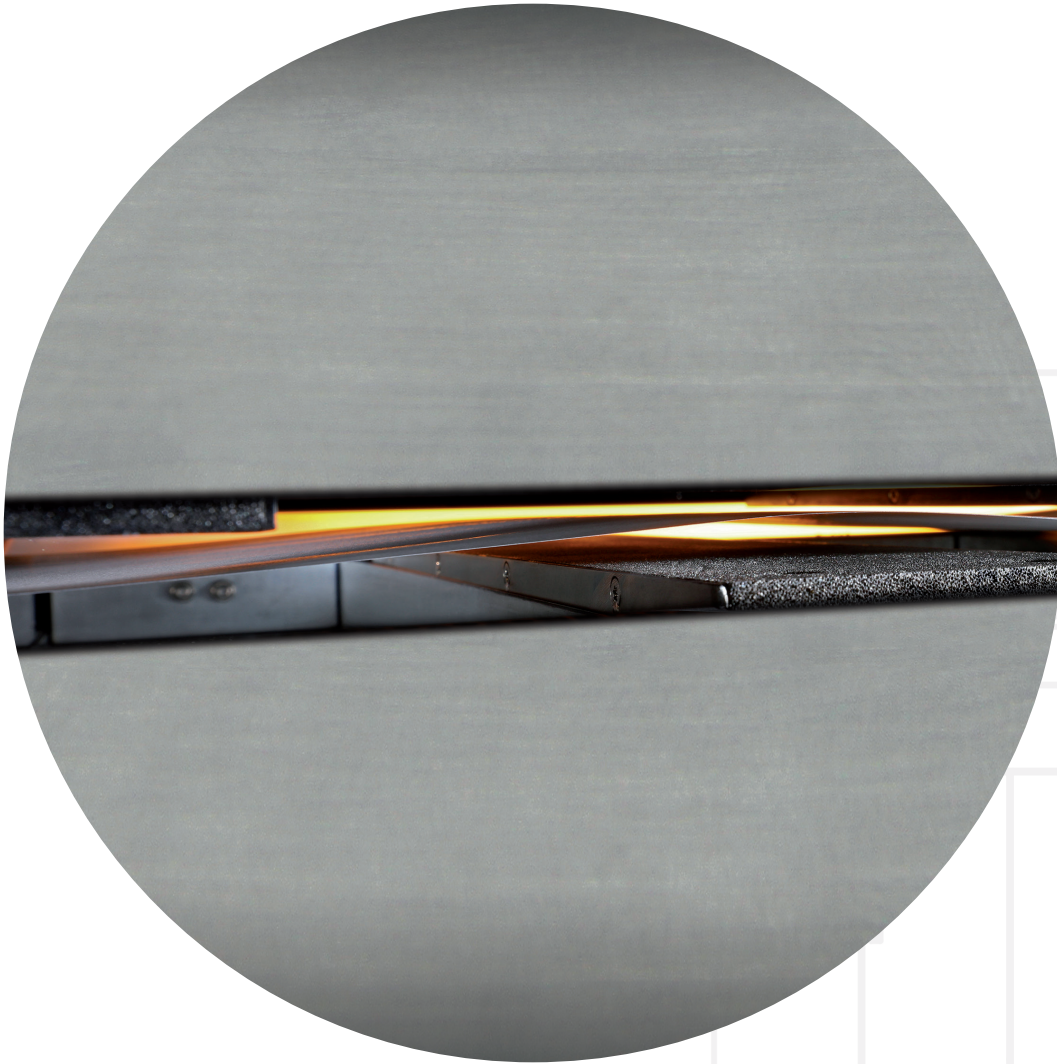
Highest comfort  
with highly  
sophisticated  
machinery

FMP Technology has **experience with projects in a wide range of industries** and can offer the perfect coating line for your needs. Sheet to sheet, roll to roll, high speed and high precision coating lines have all been realized with great success. Based on process know-how, your process will be analyzed and feasibility studies will be done to verify the simulations, **guarantee success** and ensure, that your money is invested in the best solution.

FMP offers coating lines in all sizes, precision levels and speeds as well as various optional equipment (UV curing, measurement systems, automatization, etc.) **according to your needs**.

Our slot-dies ensure **maximum precision**, our process know-how guarantees the **best product** and our engineering know-how delivers **maximum added value**.

# FMP DRYING SYSTEMS



Unique impingement-free floatation dryer



# INDUSTRIAL AND LAB-SCALE DRYING SYSTEMS



Different applications require different solutions

FMP dryers prevent skin effects and the entrapment of solvents

Thanks to process know-how and analytical tools, FMP's industrial convection band dryers are **specifically engineered to your needs**, are shorter as conventional dryers and only as long as necessary to completely dry your coatings. FMP offers dryers for your product in all sizes and shapes, from laboratory to industrial scale, horizontal to vertical and with various heating and accessory equipment. With the **patented FMP impingement-free drying technology**, knowledge of impingement dryers and additional equipment like infrared radiators, FMP provides the best possible equipment and design for your application. If you would like to dry especially thick, sensitive or other challenging coatings, shorten your current dryer or make your drying process more efficient, the FMP team will analyze, calculate and simulate your process to find the perfect solution for you and **build exactly the dryer you need**.

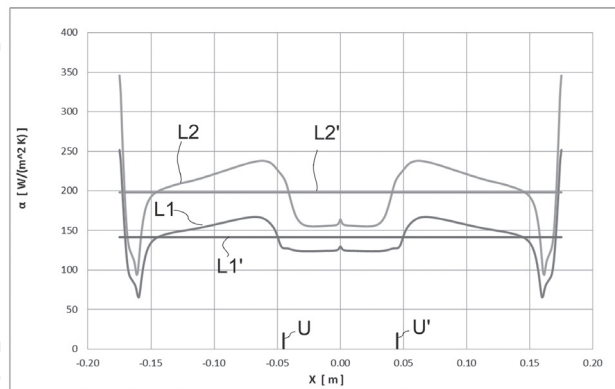


FMP industrial band dryers for continuous and discontinuous processes

# PATENTED IMPINGEMENT- FREE DRYING TECHNIQUE

Especially designed for  
sensitive and thick coatings

Reduce defects,  
shorten dryer length  
increase drying  
efficiency

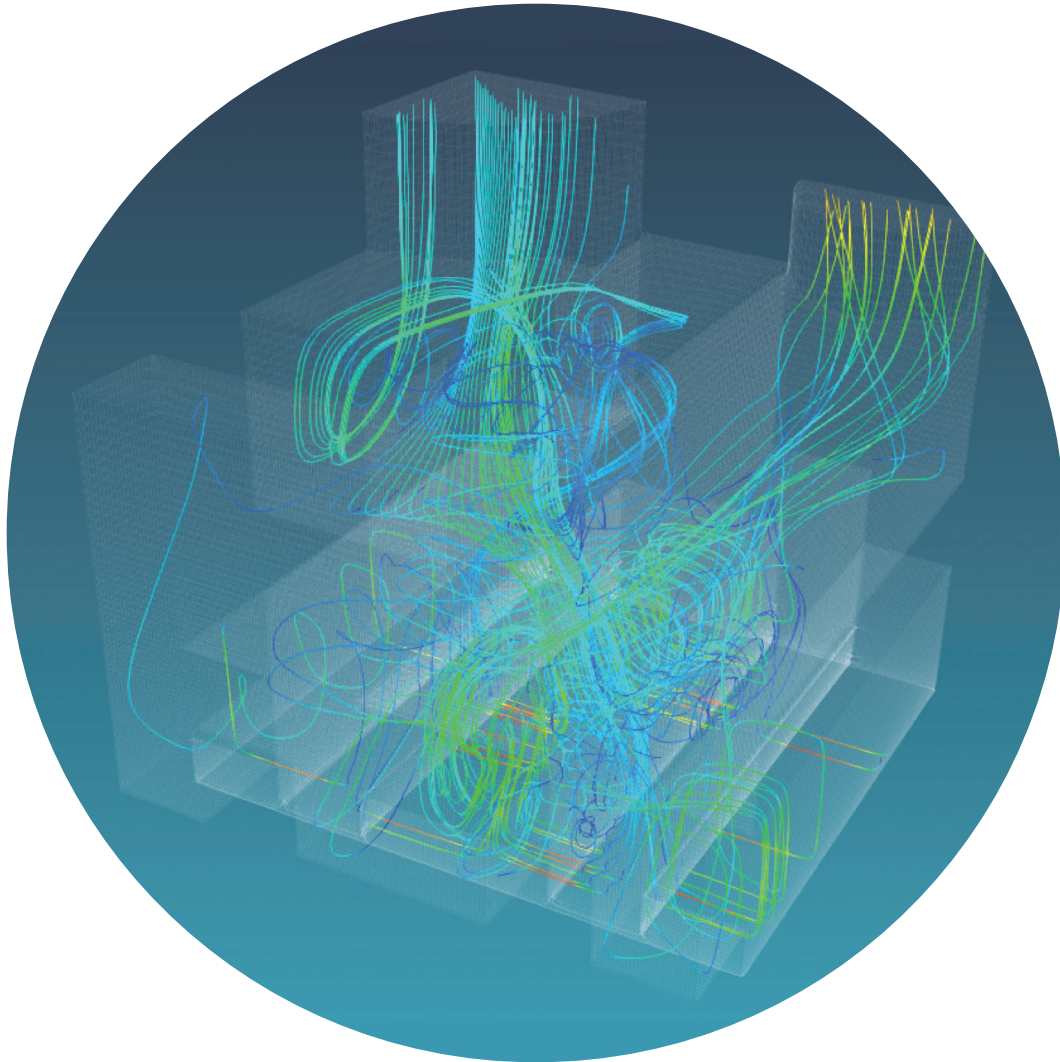


Patented drying technique

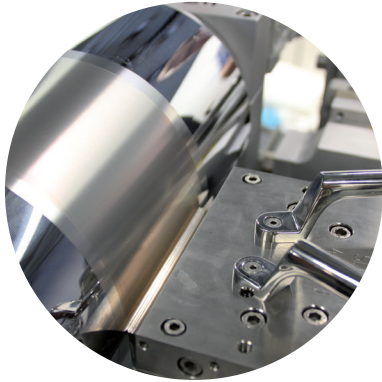
Conventional impingement dryers often have sharp temperature and pressure peaks at the nozzle outlets, leading to defects in the drying film, non-uniform drying and skin formation, which limit drying efficiency. The **FMP impingement-free drying nozzles** provide a very uniform heat transfer coefficient over the entire substrate at lower air speeds, while maintaining the same or even higher volumetric air flow. This allows for a more **gentle, uniform drying** and **higher product quality**.

Two different configuration modes, **PureDry** and **SenDry**, allow the drying process to be adapted to your needs to create **homogenous** temperature and velocity distributions in the **high-quality coatings**, **maximize drying efficiency**, or **shorten dryer length**.

# PROCESS DEVELOPMENT

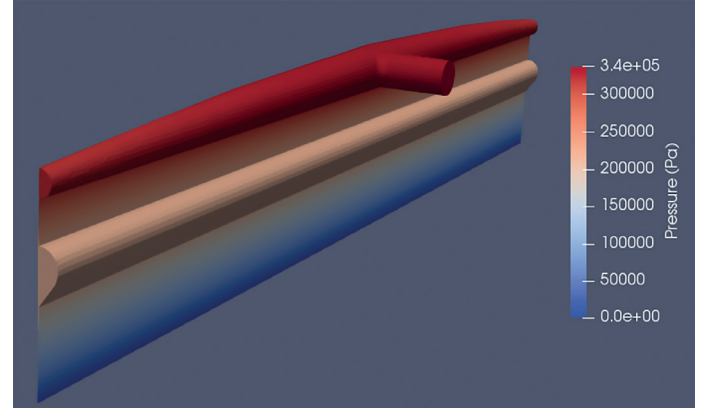


CFD simulations of the heating air flow profile in a FMP dryer

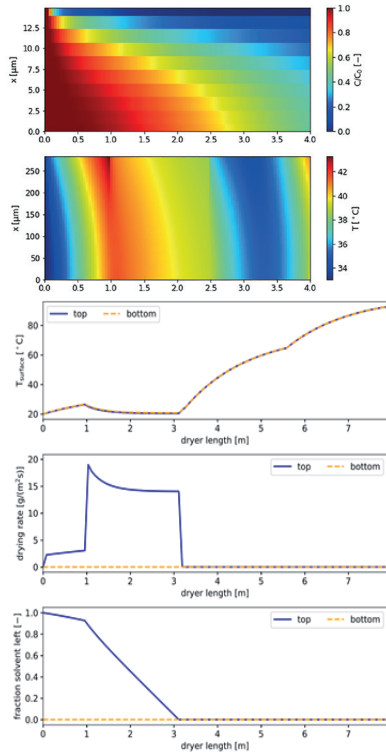


Maximize  
the efficiency  
of your coating  
and drying  
machinery

FMP Technology uses many **analytical** and **numerical in-house tools** for process development and analysis. These tools enable FMP to **evaluate your process**, pinpoint **potential** and **strategies for improvement** and evaluate the **feasibility and advantages** of introducing **new technologies** such as impingement-free dryers or coating slot dies into your process.



CFD-pressure distribution of a  
double chamber slot die



Drying simulation based on FMP software



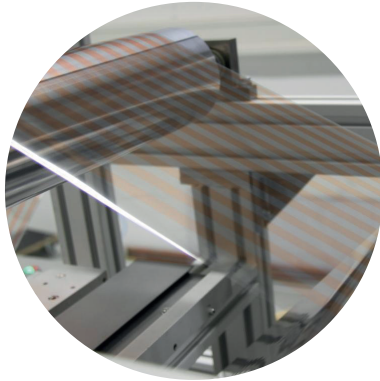
## Design and optimization of drying processes:

- Thermodynamic simulation of drying processes
- Numerical CFD simulation of the heating air flow and heat transfer coefficient profile inside the dryer
- Determination of the potential for impingement-free convection technology in comparison to conventional impingement drying technology
- Performance of drying trials

## Design of slot die coating processes:

- Rheological measurements
- Analytical calculation of coating windows
- Performance of coating trials
- Design of peripheral equipment
- Numerical flow and structural analysis of slot dies

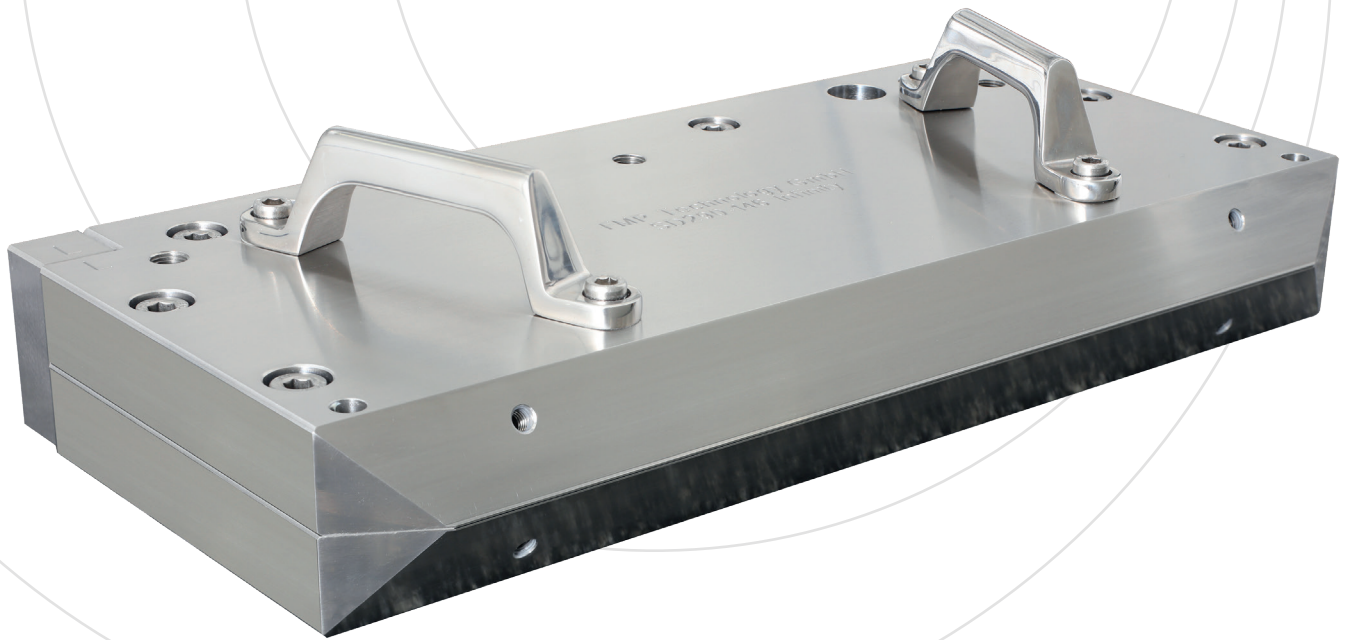




**Trials and  
measurements  
substantiate your  
investment in  
slot die and drying  
technology**

## Coating & drying trials and feasibility studies at the FMP Technology center

- **Roll to roll coating line:**
  - Substrate width: 150 - 250mm
  - Machine velocity: 0.5 - 15 m/min
  - Dryer length: 3 m
  - Max. drying temperature: 160°C
  - Coating technology: Slot-die
  - Other equipment: UV drying unit
- **Experimental FMP band dryer:**
  - Determination of the potential of the impingement-free convection technology for your process
  - Substrate width: 150 - 250 mm
  - Machine velocity: 0.2 - 20 m/min
  - Dryer length: 1.25 m
  - Air outlet velocity: 0.3 - 4.7 m/s
  - Floating operation possible
  - Different nozzle arrangements to suit your process
  - Max. drying temperature: 180°C
- **Sheet to sheet curtain coating line:**
  - Coating type: Curtain coating
  - Machine velocity: 20 - 125 m/min
  - Substrate size: DIN A4 sheets
- **Lab equipment:**
  - Rotational viscometer
  - Surface & contact angle measuring instruments
- **Partners for large scale trials**



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