

ONEJOON – THE PLACE TO GO WHEN IT COMES TO ANODE MATERIALS PROCESSING



KILNS AND FURNACES FOR THE PRODUCTION OF
NATURAL GRAPHITE, ARTIFICIAL GRAPHITE AND
SILICON-CARBON COMPOSITES



WHY US?

Market Insight

The battery market is a very attractive playing field for both active existing players as well as for newcomers like start up's or side entries. Governmental funding has further supported a wide range of development into new materials and processes, aimed to build batteries that outperform current systems.

There is a strong focus on both upscaling existing material processing routes as well as on the development of new or advanced raw materials for battery applications in the industry. Where materials have been successfully approved on a lab scale, the challenge is to define the next steps towards a product validation and the realization of volume production. Where material performance is a key driving force in the development phase of anode or cathode materials, for a large-scale production this is not enough. Production cost, availability of raw materials, sustainability and reproducibility are equally important as investment cost for equipment.

Service Value Proposition

For over 125 years now, we are a reliable partner and thermal equipment provider for customers that develop or scale up their processes. Hence, we know how the choice of crucial

proven technology and experienced suppliers is to secure investments into new plant projects, especially in the anode material business. ONEJOON furnace lines combine the highest degree of Safety, Process stability and System Reliability.

As a globally operating thermal solution specialist with offices on three continents and multiple reference plants across industries, ONEJOON frequently provides turnkey solutions for large project sizes. Our philosophy is to move beyond supplying technology and to become a **trusted partner** that innovates alongside our customers and provides process knowledge to build cutting-edge thermal processing lines. That is why we created our **in-house test center** where all our knowledge and products are physically brought.

BECAUSE WE OFFER CUSTOMIZED SOLUTIONS FOR YOUR ANODE MATERIALS PROCESSING!

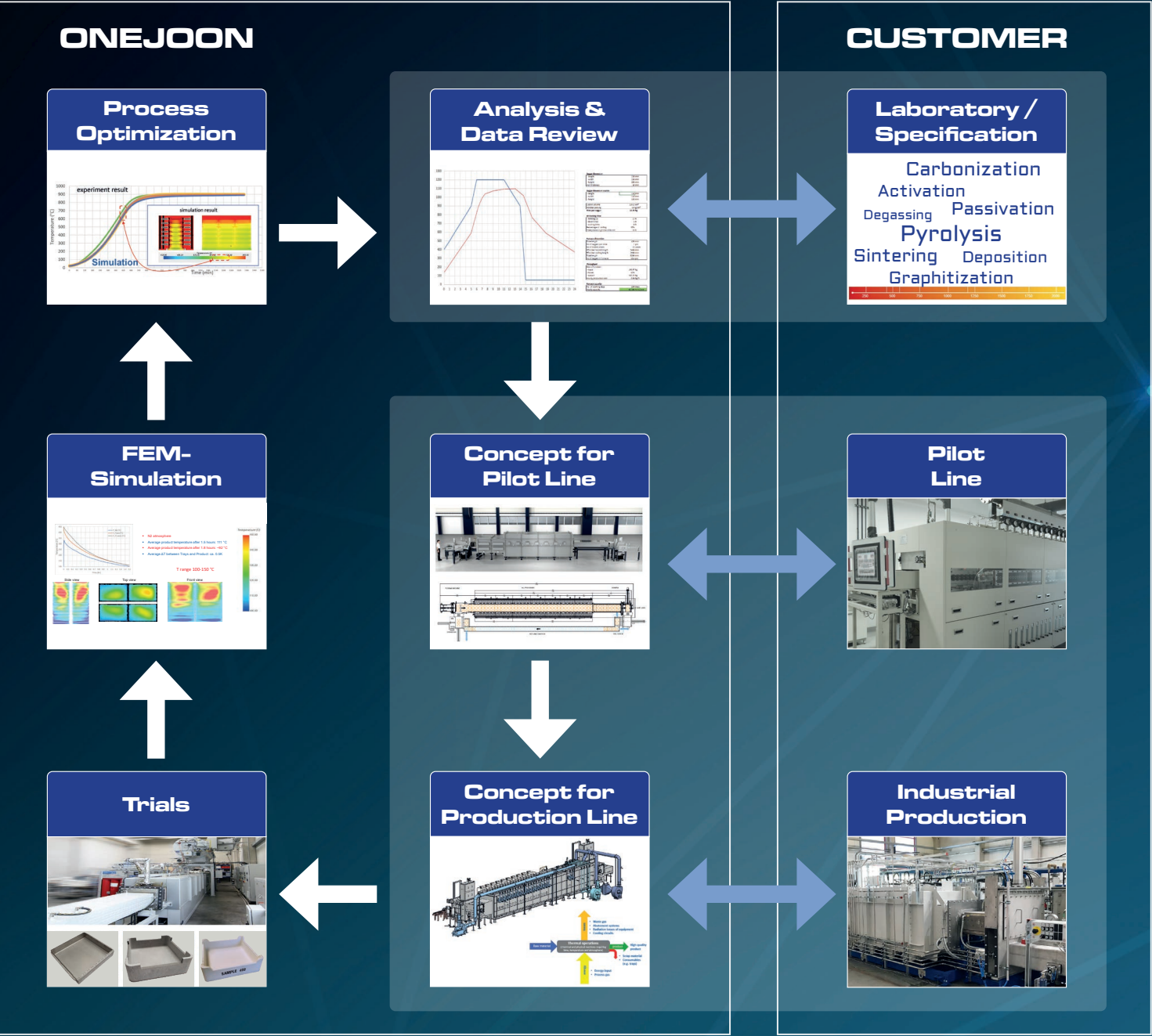


Learn more?
Let's have a call!

You would like to learn more about us,
our products and your possibilities?
We look forward to speak to you in person
and discuss what we can do for you.



ONEJOON IS YOUR DEVELOPMENT PARTNER
FROM YOUR CURRENT BATCH PROCESSES
TO HIGH EFFICIENCY
LARGE SCALE PRODUCTION



Product Value Proposition

ONEJOON's equipment is designed and optimized for markets and applications requiring high levels of system availability, process safety, reaction homogeneity and product quality.

As these requirements increasingly match those of the anode material processing, our advanced furnaces and the related process equipment provide our customers with a competitive advantage.

Combining on our broad experience with special atmospheric processes in the battery industry and the chemical industry, we engineer product features that tackle the issues for any sophisticated material.

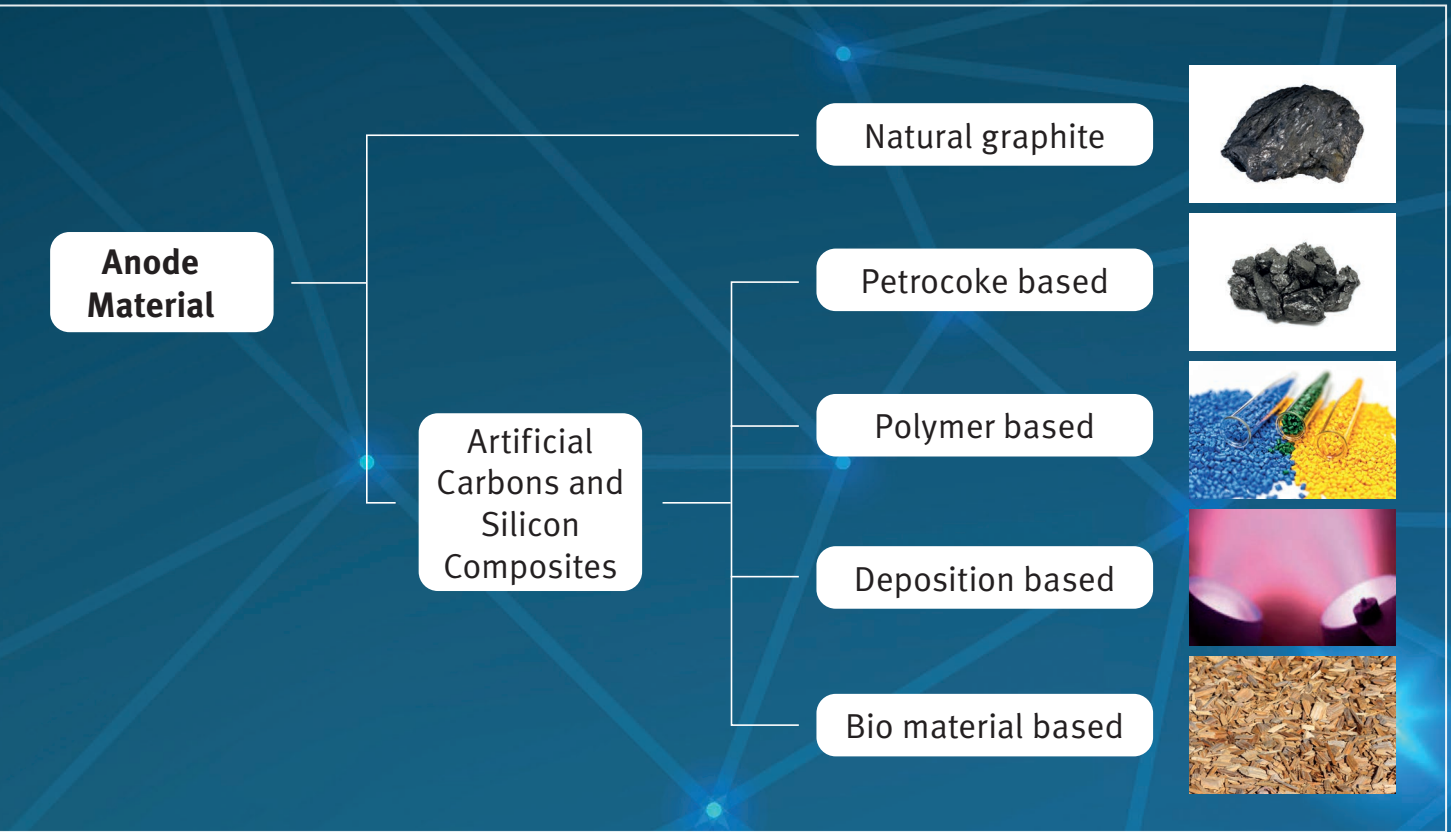
We support you – from lab to fab

The focus on new developments for the anode side of the battery is very high. New carbon and graphite materials are in development. Above this, silicon based raw materials are created which are aimed to improve the performance of the future battery systems.

Yet, the majority of anode powders are either natural or artificial graphite. Both traditional processes used to graphitize cokebased carbons, Acheson as well as lengthwise process, are very energy intense and come with a strong environmental impact.

ONEJOON has aimed its efforts to provide support to the companies who develop new anode materials that reduce the carbon foot print. We build sophisticated furnaces for the production of synthetic carbons and graphites as well as for silicon composite materials.

- Coke based
- Polymer based
- bio materials based
- deposition based (from the gas phase)



Our material scientists and process engineers understand complex processes for customized reaction routes. Based on this we are capable to provide process solutions for the production of any material. Our references include solutions for the following processes:

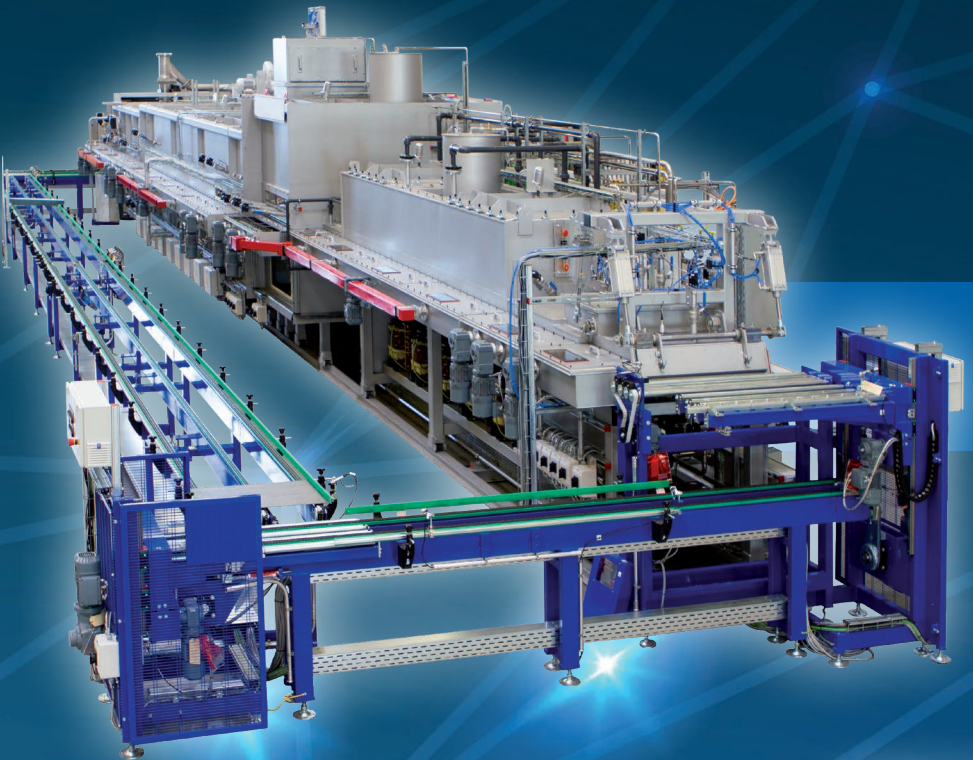
- Pyrolysis
- Hydrolisis
- Activation
- Passivation
- Graphitization
- Deposition
- Coating

ONEJOON modular furnace concepts

When it comes to define the most suitable concept, we compare amongst different furnaces types in special regard of heat transfer, degassing properties, reaction control as well as process safety and reliability. We use proven modules and combine them to match the specific needs.

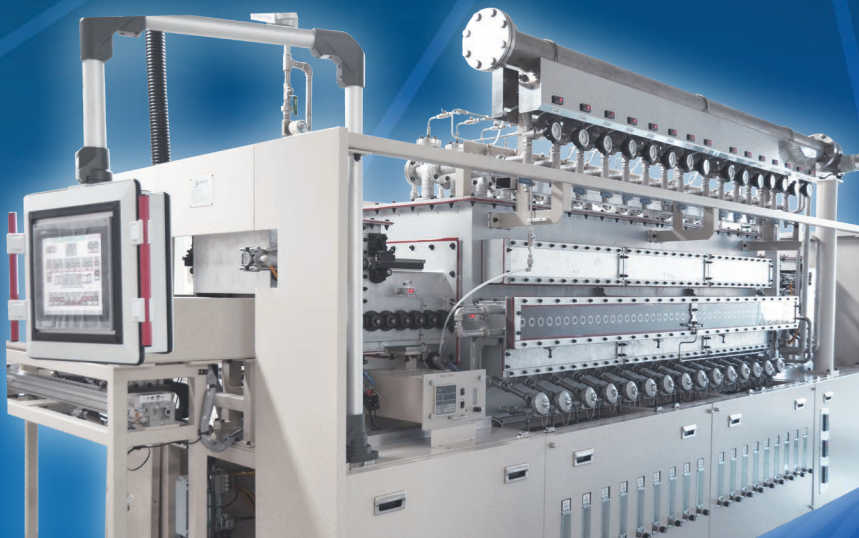
We choose from our modular furnace concepts to master almost any challenge using

- pusher furnaces
- roller furnaces
- rotary furnaces
- reaction chamber furnaces
- tube furnaces



Flexible Roller Hearth Furnace
for Pilot Production
(CAM, Anode Material, Solid State)

Multifunctional
Development Furnace





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OJ-F-001-en-0521