

The logo for G.tecz, featuring the text "G.tecz" in a white sans-serif font. The period after "G" and the letter "z" are highlighted with small blue squares. The background of the entire image is a grayscale photograph of a construction worker in a hard hat and safety vest, working with large metal molds on a construction site. The worker is positioned in the upper left, and the molds are in the foreground and middle ground, showing a grid-like pattern on the ground.

G.tecz

G.TECZ ENGINEERING CONCRETE TECHNOLOGY



YOUR CONSULTANCY AND DEVELOPER FOR TAILORED CONCRETE TECHNOLOGIES, PRODUCT-, MACHINE- & STRATEGY DEVELOPMENT

G.tecz Engineering - an innovation and research & development company on cement bonded high tech materials for industry applications.

Latest research and technical expertise, like nano based particle packing, optimizing algorithms, calculation of water film thicknesses, evolutionary algorithms, Finite Element Methods and databases are used to develop cement bonded high tech materials for your product and material innovations. G.tecz can offer you services like raw-material characterization, concrete development, concrete optimization, development of cement bonded high-tech materials, FEM analysis or the development of production plants.

Our technologies are fast, cost-effective, customer oriented.

We work with local resources to develop the best solution for your business.

Established
2007

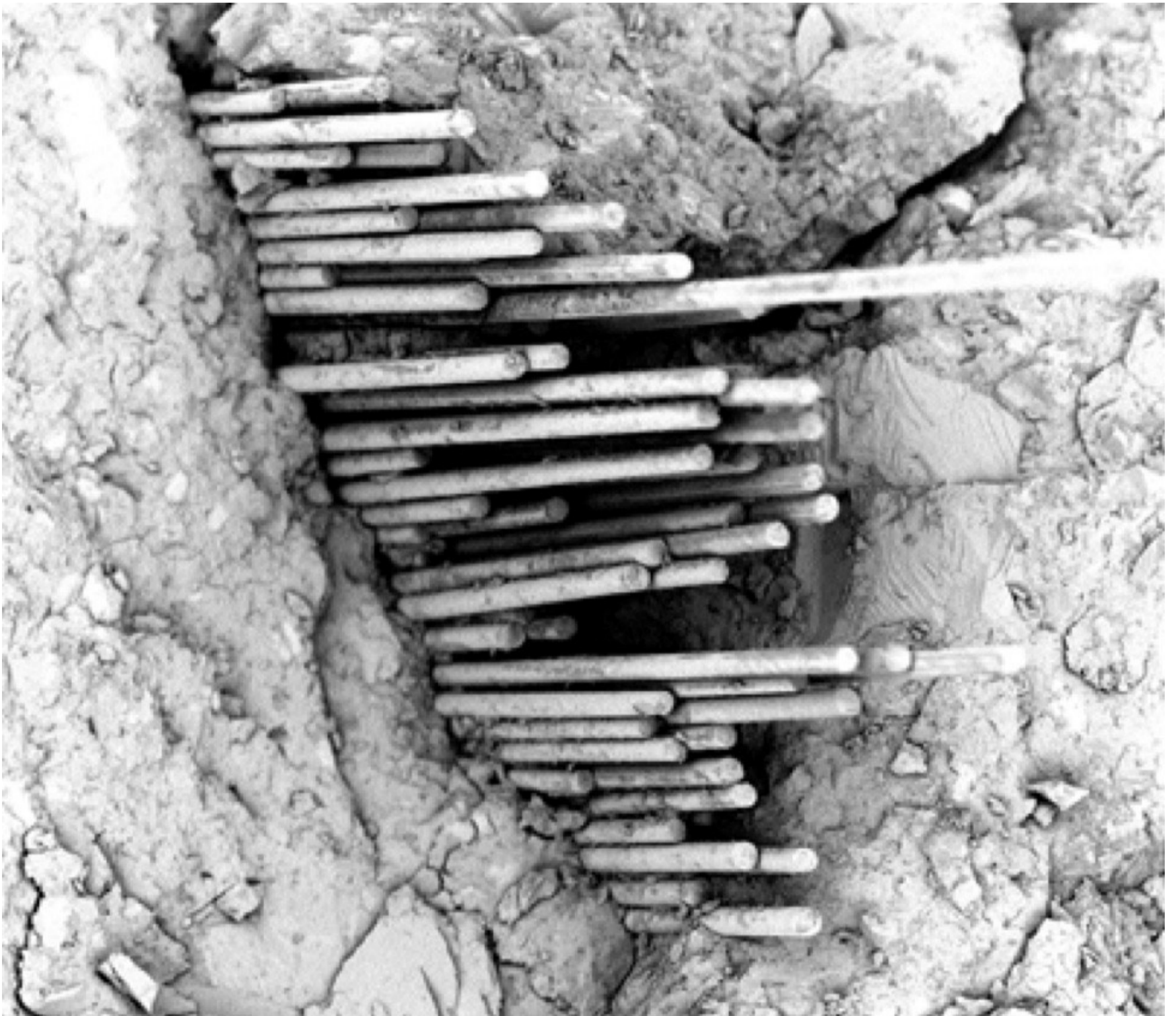
Team
10

Projects
>300

Laboratories
- Wet Concrete
- Physical
- Testing
- Production

PROJECTS
GERMANY,
Austria, Swiss,
Netherlands,
Poland, France,
United States of
america, Australia,
New Zealand,

OUR SERVICES



G.tecz Engineering offers experienced and comprehensive know how and advisory for a wide range of concrete technologies, machinery technologies as well as concrete business needs. We can help you to innovate, work smarter and reach your goals. You are invited to look at the professional services.

Manufacturers of modern concrete elements, whether they are small family businesses, medium-sized companies or large corporations, must keep pace with this trend. For 10 years, the Kassel-based company G.tecz Engineering has been successfully offering engineering and consulting services for cement bonded materials - worldwide. The services are individually tailored to the partners' needs and range from simple concrete optimization in existing production facilities to project and change management, through to complete

production or plant planning on a greenfield site, including business and strategy consulting; this is always industry- and implementation-oriented.

concrete development & optimization

Latest concrete technologies will be used to optimize your existing concrete solutions - workability, strength, costs, sustainability... Tailored modern materials like UHPC, HPC, Light weight concrete or 3D Printer concrete will enhance your portfolio.



advisory

Experience and foresight are required to achieve your objectives. Make the best decisions to move your business forward with trust and confidence.

facility optimization and planning

Production improvements of up to 25% by concrete quality improvements, production line optimization or education of human resources are possible. Simple steps will lead to higher efficiency.



science & laboratory

Keeping track with the latest concrete technologies is essential. We do offer you our laboratory services to check your products and advise improvements

machine development and installation

Innovation, material, production lines and production process are going hand in hand. We know the material and so develop tailored machines for your product and business.



innovation

It's all about concrete and it's raw-materials. It's more than a gray stone - innovations do lead to new applications, products and business

complete business solutions

Holistic solutions for you business - that's what we can offer you. Advisory from A-Z while development of materials, machines, production lines and even business case studies.



business development

No matter if you own a family business, a large production facility or you are an entrepreneur. We advise you strategies and thus value and trust.

CONCRETE - TWO STORIES

Concrete is one of the most widely used materials in the world, but it is also one of the oldest. The change in material technology, production processes and constant innovations do not stop at the old known building material. On the contrary, in the past 15 years new concrete technologies have been developed alongside new products, manufacturing processes, digitization (industry 4.0) and applications that were previously unimaginable.

Manufacturers of prefabricated elements, concrete producers or companies dealing with cement-bonded materials can only be competitive if their material technologies meet today's requirements, are suitable for products and the internal production processes run efficiently and safely.

Two practical examples:

For a small medium-sized company producing prefab elements, a holistic analysis was carried out, i. e. from material composition to production technology, production processes and employee know-how. By optimizing the concrete formulation, which no longer corresponded to the state of the art, it was possible to achieve cost savings of approx. 20% and at the same time increase the material class and fair-faced concrete class. With a minimal reorganization of the production processes, employee training and modern concrete technology, the efficiency of the company was increased by approx. 15%.

Filigree façade elements made of high-strength or ultra-high-strength concrete (UHFB, UHPC) are becoming more and more interesting for the market of individual curtain wall façades. We offer complete solutions for this purpose for prefabrication plants or lateral entrants, which were developed by G. tecz Engineering. In an integrated development process, the material technology and the facade production plant were coordinated, optimized and implemented with partners. The efficiency of the designed plant enables a high production rate and ensures the competitiveness of our customers.

Company know-how, employees, material technology, innovative products and production processes are the most valuable resources of a company. G.tecz offers individual, future-oriented technologies and concepts to increase the competitiveness of a company in cooperation with its team.

WHAT WE CAN DO FOR YOU

CONCRETE OPTIMIZATION & DEVELOPMENT

G.TECZ IS OFFERING TAILORED SOLUTIONS FOR A WIDE RANGE OF CONCRETE TECHNOLOGIES

- Raw Material Analysis
- REM and EDX Analysis
- Concrete Optimization
- Concrete Development: Regular Concrete, HPC, UHPC, Light Weight Concrete ...
- Material Testing: Flex. Strength, Compr. Strength,
- Production Process Optimization
- Structure- and Design Optimization
- Mixer Technology
- Production Plant Development
- Comprehensive al-round packages

MATERIAL & PRODUCT ANALYSIS

INVESTIGATION, EXAMINATION OF RAW MATERIALS, PRODUCTS AND EXPERT REPORTS

SEM & EDX - Investigation and examination of raw-materials, concrete or other material surfaces as well as chemical analysis of those - we do offer you our individual service.

Microscopy - Analysis and examination of concrete or other material surfaces.

MACHINE & PRODUCTION DEVELOPMENT

FROM PRODUCTION OPTIMIZATION TO THE DEVELOPMENT OF UNIQUE PRODUCTION LINES

- optimization, consultancy or development of production facilities
- Analysis of your production lines and optimization of processes, effectiveness, value, volume,
- Testing of machines: performance; stability; effectiveness,
- Adaption and optimization of your machines regarding special applications: UHPC SHOT CRETE, EXTRUDER TECHNOLOGY, ...
- Development of complete new production units: SHOT CRETE MACHINES, 3D CONTOUR CRAFTING, FACADE LINES, DRY MIX UNITS, MIXER SYSTEMS,

ARCHITECTURE & DESIGN CONSULTANCY

FROM MATERIAL TO ARCHITECTURE AND DESIGN - New Concrete Technologies open the doors for new architecture and design. We are supporting architects and designers to realize new ideas, projects and visions. Next to the pure material technology, we will support you with structural design, FEM calculations as well as mold design, production processes or even support on site.

G.TECZ CONCRETE TECHNOLOGIES

CONCRETE High-Tech

Quantz (UHPC)
Next generation of Ultra High Performance Concrete

HPC
High performance Concrete

Fast HARDENING
fast hardening concrete for replacement of polymer concrete, road construction, industrial floors, ...

Light-Weight & Insulation

Foam Concrete
fast hardening foam concrete with high insulation

LightWeight Concrete
high load bearing and insulating concrete

Aerogel Concrete
the high insulation material with a high load bearing strength.

DRY-MIX

HPC dry-mix
dry-mix development for production lines

Repair Concrete dry-mix
high strength concrete for repair applications

CONCRETE OPTIMIZATION

blueCONCRETE
the cement reduction technology

REGULAR CONCRETE OPTIMIZATION
optimization of stability, workability, strength,

Heat-Proof Concrete

HeatProof Concrete
ultra high performance concrete with a high long-term heat resistance. The material is used for oven construction, transportation units or high-temperature injection molds.

Brand New CONCRETE Innovation

3D Print Concrete
Compound for 3D Printing with powder printers.

3mm Quantz coating
ultra thin concrete layer for wallpaper and furniture

HOLISTIC UHPC FAÇADE SOLUTION

Road Construction

Fast Hardening Concrete
for road construction, repair of highways or airport runways.

AquaPERM
high strength drainage concrete developed for roads, walkways, parking areas ...

HOW WE WORK

Step 1 - Analysis

Survey of your raw materials and production lines

- Optimal usage of your raw materials
- Reduction of material costs
- Material optimized for your mixer and your production line

Step 3 - Transfer

Transfer of concrete technology

- We will transfer formulation and know-how to you
- Engineers will accompany you while transfer
- Test productions with new material
- Quality control and proof of development aims

Step 2 - Development

Development of your concrete technologies

- Usage of your local raw-materials
- Material properties regarding your requirements
- Optimized workability
- Cost optimized concrete

Step 4 - Production

Production of the new concrete products

- After the transfer you can immediately produce
- Free adaption of concrete in case of problems
- Usage of collaboration Network for clients

G.tecz developed new technologies to give you the best cement-bonded material experience possible. Because G.tecz makes both the individual material development and the technology transfer, everything just works. Like a high-tech material should.

Your Technological Leadership - Achieve a technological leadership by the improvement and extension of your products and fabrication facilities. Invest in your company's future and gain latest innovations by our technology transfer. Obtain decreasing the production costs and primary energy by maximizing your profit margin. Decrease your cost of labor by establishing optimized fabrication processes. Position your company with a head start of new innovations at the top of the market.

Your Innovation-Coverage - Reach innovation strength by using our expert's knowledge and network. Due to a continuous information-flow regarding latest scientific material- and construction technologies you will stay tuned to the state of the art. As a lateral thinker and multidisciplinary problem solver we will develop your innovations, streamline and optimize production processes. Simultaneous engineering will reduce development time and costs. Gtecz offers you to act as your innovation driver and problem solver.

G.TECZ ENGINEERING CONCRETE SOLUTIONS FOR THE INDUSTRY

E X A M P L E S

UHPC FACADE SOLUTION



Facility Development

G.tecz Engineering does offer complete services for the development of a production line - for UHPC (Ultra High performance Concrete) facade panels. Starting from concept drawings, production facilities, mixing units ... till services while setup of the facilities - worldwide.

For interested parties that already do have a production line for concrete panels, we do offer upgrade solutions for the production of UHPC facade panels.

Or - Do you need a complete turnkey solution?

No problem - we can offer you affordable production line systems.

UHPC Development

Based on local raw-materials, G.tecz will develop a tailored UHPC for facade production that fits to your production line as well as economic aspects.

By using your own tailored UHPC solution, you can save up to 300% compared to pre-mix solutions that are offered at the market.

With the material development, we already integrate the reinforcement system for the panels and consult you on fixing and substructure solutions.

Services

We don't leave you alone. G.tecz Engineering is seeking for long-term partnerships and thus we do understand our services.

Services like Quality Control, UHPC formulation updates, lectures and much more will keep you up to date.

UHPC FACADE PRODUCTION



Company: TAKTL LLC

Location: Pittsburgh, USA

Service:

- Development of UHPC material for facades
- Concept development of production line
- Quality management setup and advisory
- Ongoing laboratory services and formulation updates

BREVOLITH - UHPC CURB STONES



Company: LINTEL GmbH

Location: Germany

Service:

- Development of UHPC earth moist concrete
- Transfer and advisory to production
- Advisory and testing for certifications
- Ongoing laboratory services and formulation updates

DRAINAGE CONCRETE FOR ROAD CONSTRUCTION



Company: OAT

Location: Germany

Service:

- Development of UHPC lime covered drainage concrete
- Concept development of production and application
- Quality management setup and advisory
- Ongoing laboratory services and formulation updates

BULLET PROOF FACADE PANEL



Company: G.tecz Engineering (internal)

Location: Germany

Service:

- Development of special UHPC for bullet proof panel
- Concept development for production and application
- Quality management setup and advisory
- Ongoing development and formulation updates

UHPC DRY MIX DEVELOPMENT



Company: talrak

Location: India

Service:

- Development of special UHPC DRY-MIX
- Development of special HPC REPAIR Mortar
- Quality management setup and advisory
- Ongoing development and formulation updates

CONCRETE OPTIMIZATION



Company: Haitsma

Location: Netherlands

Service:

- Analysis of Production and Concrete Technologies
- Optimization of concrete formulations to achieve stability, workability.
- Quality management setup and advisory
- Ongoing laboratory services and formulation updates

PRE-FAB PRODUCTION ADVISORY

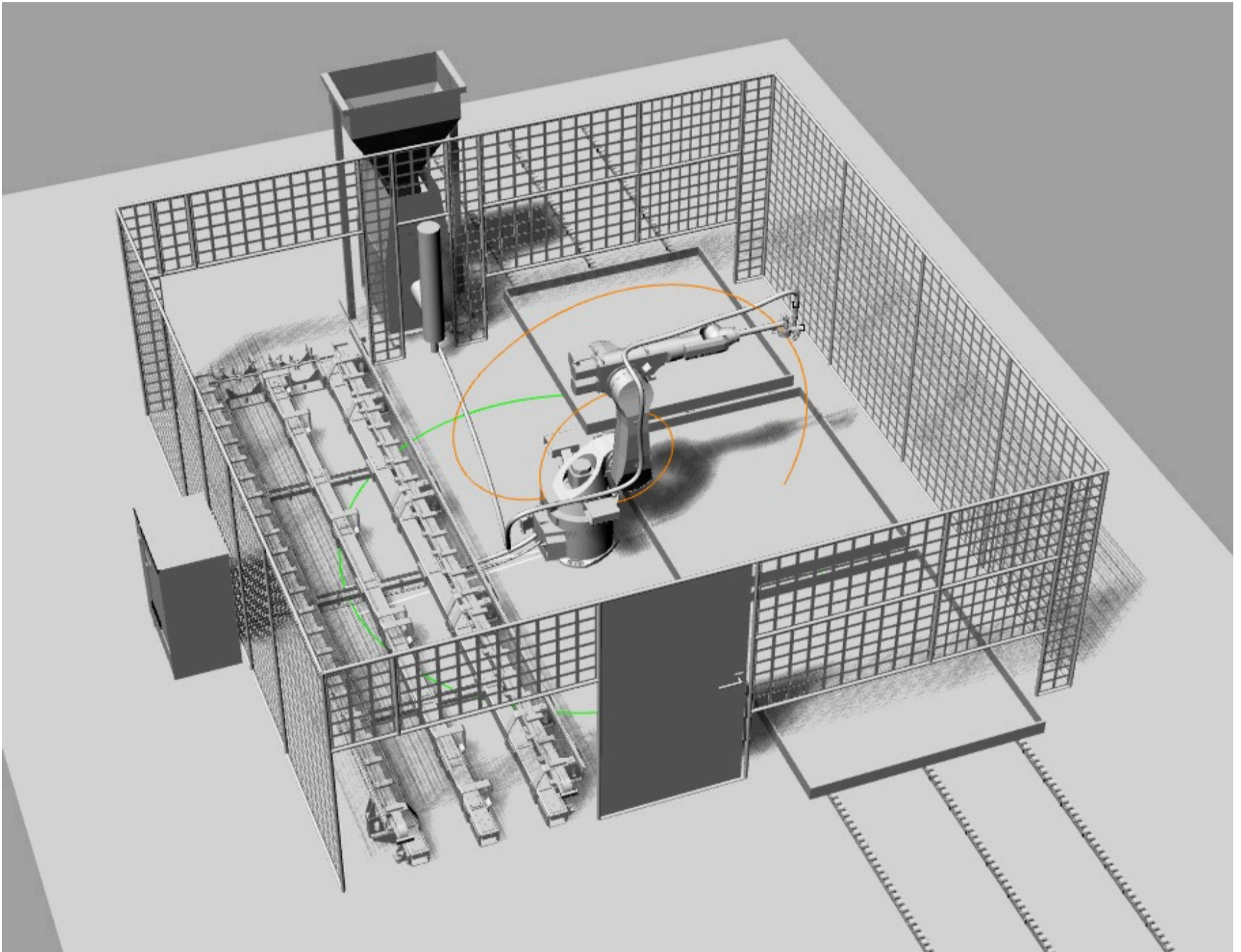


Company: Khoury

Location: Dominican Republic

Service: - Advisory for production and quality management

SPRAY ROBOT DEVELOPMENT



Company: betontec

Location: Germany

Service: - Development of SPRAY ROBOT production line

- Concept for software and production

- DRY-MIX UHPC development for machine

- Advisory for parametric design modeling with Rhino & Grasshopper

ARCHITECTURE CONSULTANCY



Company: for ZAHA HADID

Location: CYPRUS

Service:

- Optimization of existing white concrete for improvement of results
- Advisory and check of formwork, material and production
- Quality management advisory on site
- Analysis of cracks and damages in existing structures

REFERENCES

G.tecz realized more than 300 projects during the past years - worldwide. We have clients in The Netherlands, Austria, Switzerland, New Zealand, Australia, USA, India, Greece and in many other countries.

The listed projects are showing references from simple consultancy services up to the development of high-tech concretes or the planning of production lines. This is a small excerpt of projects and partners:

Industry

VOLKSWAGEN AG, Germany

Schellevis, Netherlands

Berker, Germany

Sterk Beton, Netherlands

Structo, Belgium

NIKO, Belgium

Cement&Beton Centrum, Netherlands

Romein Beton, Netherlands

Lintel, Germany

FCN, Germany

Hering Bau, Germany

TAKTL llc, USA

Schaub Backplatten, Oelshausen, Germany.

SW Umwelttechnik AG, Austria

SCC Optimization, blueCONCRETE

Hering Bau, Germany

blueCONCRETE Development, R&D projects

Forms+Surfaces, United States of America

MC Bauchemie, Germany

HOMAG Group AG, Germany

Buzzy Dyckerhoff AG, Germany

VULCAN Materials, Knoxville, USA

Architects

ZAHA HADID ARCHITECTS, London, England

UNStudio, Amsterdam, Netherlands

NL Architects, Amsterdam, Netherlands

Atelier 30, Kassel, Germany

Pape & Paper Architects, Kassel, Germany

AHM Architects, Berlin, Germany

SPLITTERWERK, Austria

LOMA Architects, Kassel, Germany

Trendja Natur, Danmark

SHAU, Amsterdam, Netherlands

Design & Art

Tobias Rehberger, Germany

Marte Johnsen, Norway

Beatrice K. Newman, UK

Doreen Westphal, Amsterdam, Netherlands

Forms+Surfaces, USA

TAKTL, USA

Christine Pohl, Kassel, Germany

PROFORMA, Kassel, Germany

Vij5, Netherland

GLOBALMIND, Kassel, Germany

University of Kassel, Prof. H. Klusmann

WHO WE ARE

G.tecz Engineering GmbH started in 2007 and was founded by Dr. Thomas Teichmann and Dr. Gregor Zimmermann in Kassel, Germany. The company has started specializing in the optimization of concretes and the new development of ultra-high-strength concretes. In the meantime, the company, which is financed purely by industrial projects implemented worldwide, has grown to 10 employees and has its own physical and concrete laboratory. Our services now include, a little more than 10 years after our foundation, not only material development but also the implementation and development of production and even production plants.



Dr. Ing. Gregor Zimmermann

CEO of G.tecz. Concerned with structure optimization, product development and administration. Long lasting experience with light weight structures and FEM optimization methods.



Dr. Ing. Thomas Teichmann

CEO of G.tecz. Concerned with concrete-research and consulting. Specialized on concrete optimization and development of ultra high performance concrete. Member of German and International technical committees.

FACILITIES

G.TECZ IS LOCATED IN THE HEART OF GERMANY - KASSEL:

- 250 sqm office space
- 50 sqm physical laboratory
- 200 sqm technical concrete lab
- 650 sqm production / prototyping.
- 10 Team Members: Engineers, Technicians, Architect

PHYSICAL LAB

- Laser Diffraction Particle Size Analyzer
- REM (Raster Electron Microscope)
- EDX (Energy Dispersive X-Ray)
- Microscope
- Viscosity measurement
- Computer aided material database

...

CONCRETE LAB

- Compression & Flexural Strength Test
- Heat chambers (up to 300°C)
- Heat chambers (up to 1400 °C)
- Climate chamber
- Viscosity
- Slump

... and much more.

EXPERIMENTAL LAB

- 3D Rotation machine
- Tube High-Speed Rotation machine
- (hebö) High Temperature oven (up to 1500 °C)
- Different Mold technologies

... and further laboratory equipment.

CONTACT

G.tecz Engineering GmbH

Eichwaldstr. 38

34123 Kassel

Germany

www.gtecz.com

contact@gtecz.com

Call +49 (0)561 579 8399 0