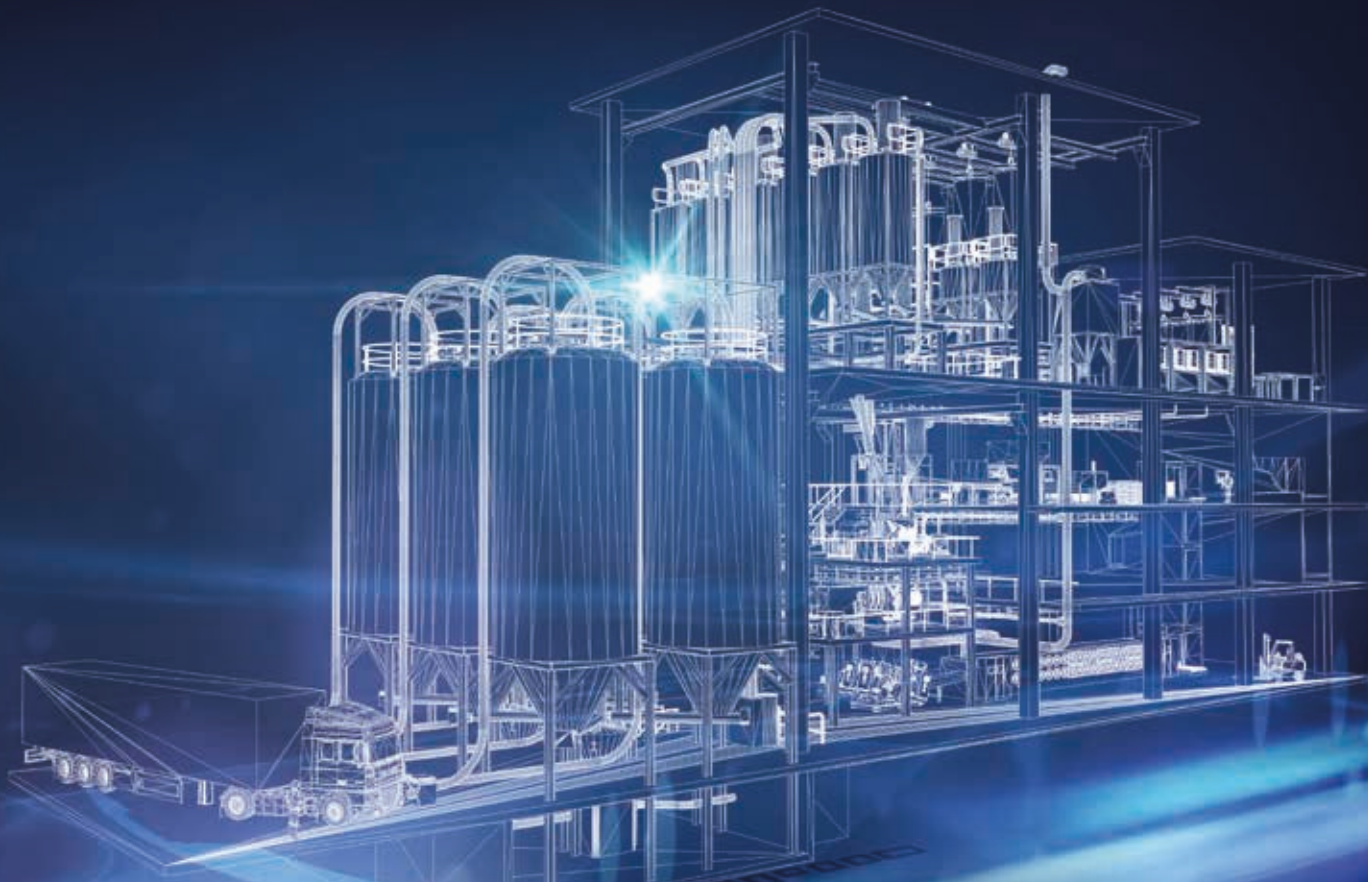




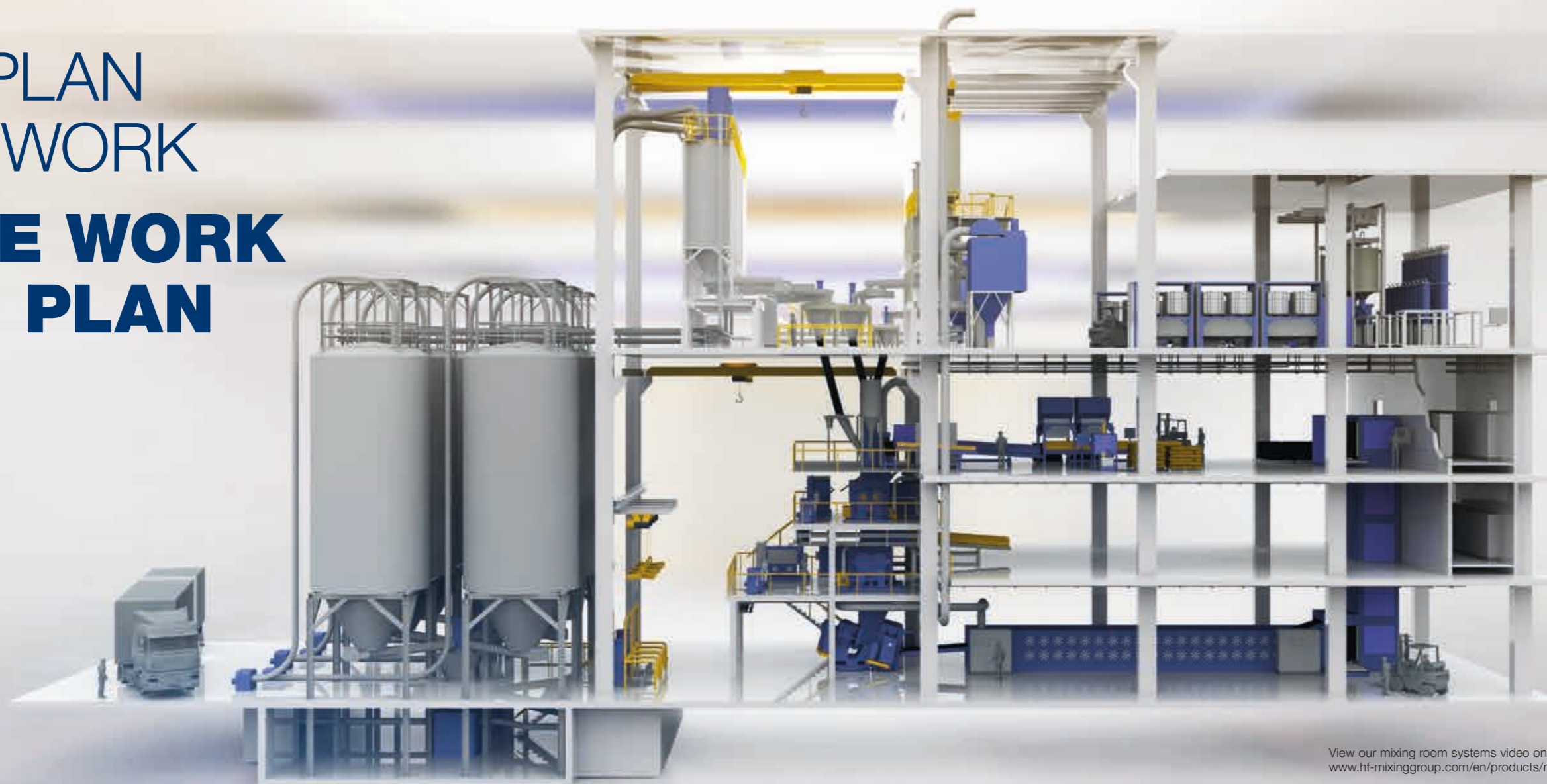
# MIXING GROUP

Systems



**MIXING ROOM SOLUTIONS  
FOR YOUR APPLICATIONS**

# WE PLAN THE WORK & WE WORK THE PLAN



View our mixing room systems video on  
[www.hf-mixinggroup.com/en/products/mixing-room-systems](http://www.hf-mixinggroup.com/en/products/mixing-room-systems)



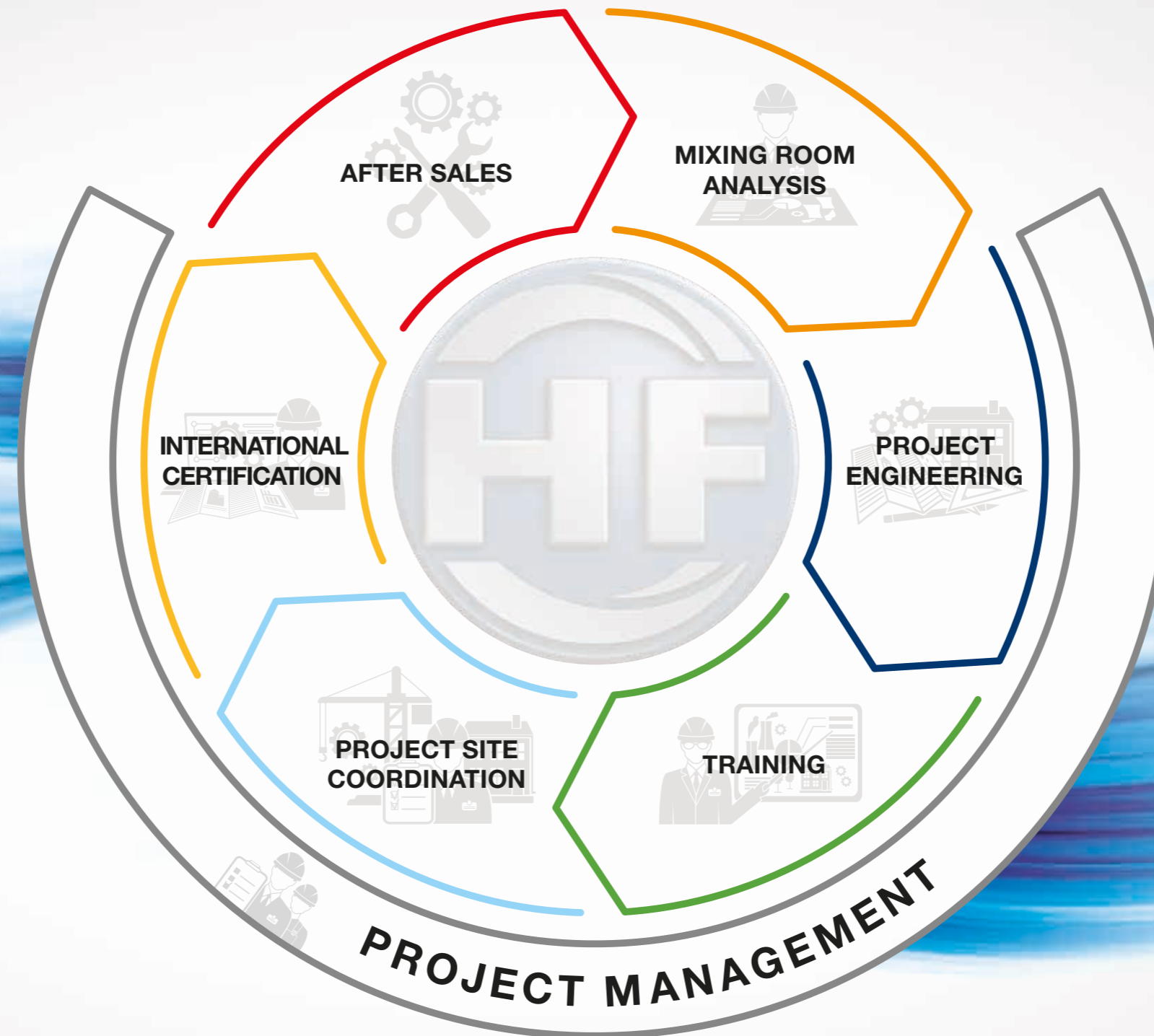
Efficient compounding of mixtures require innovative systems – but what makes a system efficient? We have the know-how thanks to our year of experience in manufacturing mixers and mixing room systems. Since the development of the internal mixer in 1916, requirements in the polymer processing industry changed continuously. To ensure you always get the best quality, we are constantly developing our BANBURY®, INTERMIX®, TANDEM and UMIX mixers.

We provide both engineering and consultancy services as well as the development of mixing room solutions for you. Our highly qualified and internationally diverse team has an extensive skill set within the field of process engineering and mixing room automation.

Benefit from our mixing room expertise and trust in us to design and implement your system solution.

## A SYSTEM IS ONLY AS GOOD AS ITS DESIGN

Do you need a new mixing room or do your major components require replacement? If so, get in touch. You can focus on your routine business whilst we undertake full project management on your behalf. Our services range from the selection and design of technical equipment that best fits your needs, complete engineering services, training, site coordination, commissioning and certification.



### Mixing room analysis:

- Analysis of mixing processes and mixing flows
- Carrying out of series testing in our HF Technical Center
- Mixing room design
- 3D mixing room scanning

### Project management:

- Project management from the quotation phase through completion
- Supplier selection and coordination
- Scheduling and project controlling

### Project engineering:

- Design and layout of mixing room material flows
- Interface definition and optimisation
- Factory Acceptance Testing (FAT) of soft- and hardware

### Training:

- For operators
- For maintenance personnel
- For process supervisors

### Project site coordination:

- Coordination of mechanical and electrical assembly as well as installation at the customer site
- Logistics management at the installation site
- Site Acceptance Testing (SAT) on behalf of the customer

### International certification:

- State-of-the-art risk assessment
- Operating instructions
- Declaration of conformity

### After sales:

- 24 h hotline service
- Global service network
- Replacement parts and on-site support services
- Permanent full-system support



[www.hf-mixinggroup.com/en/service/technical-center](http://www.hf-mixinggroup.com/en/service/technical-center)



## MIXING ROOM ANALYSIS

Once we know your expected production requirements we can determine the correct equipment needs for your business, whether its for tire production, technical rubber goods or any other application within the polymer industry.

### General services:

- Mixing room analysis
- Mixing room design
- Automation design
- Material flow layouts

### Greenfield projects:

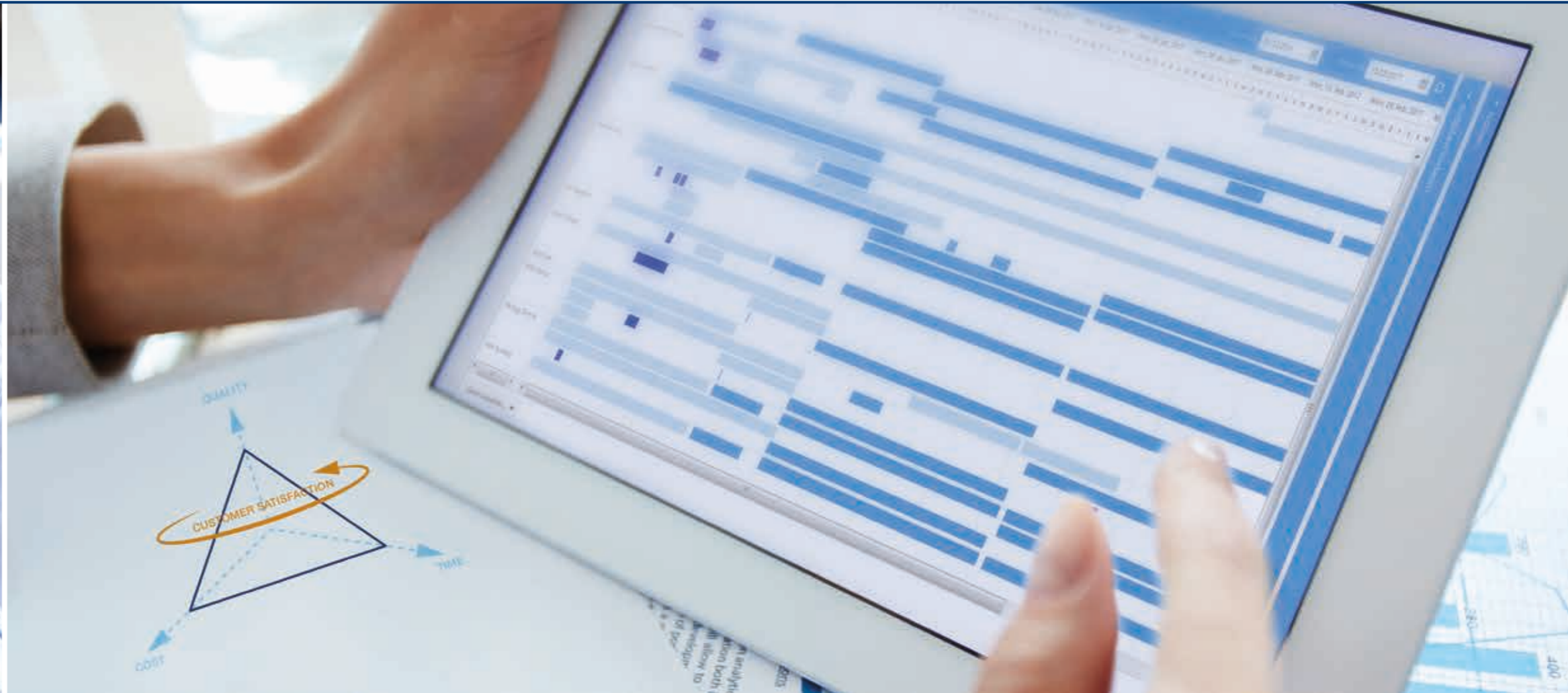
- Installation site concepts

### Brownfield projects:

- Retrofitting
- 3D engineering study
- 3D mixing room scanning

### TECHNICAL CENTER

The best results require appropriate planning. As systems become increasingly complex, testing becomes more relevant. We are here to help with this requirement. The Technical Center performs tests and simulations under production and laboratory conditions to provide the perfect environment for analysing your needs.



## PROJECT MANAGEMENT

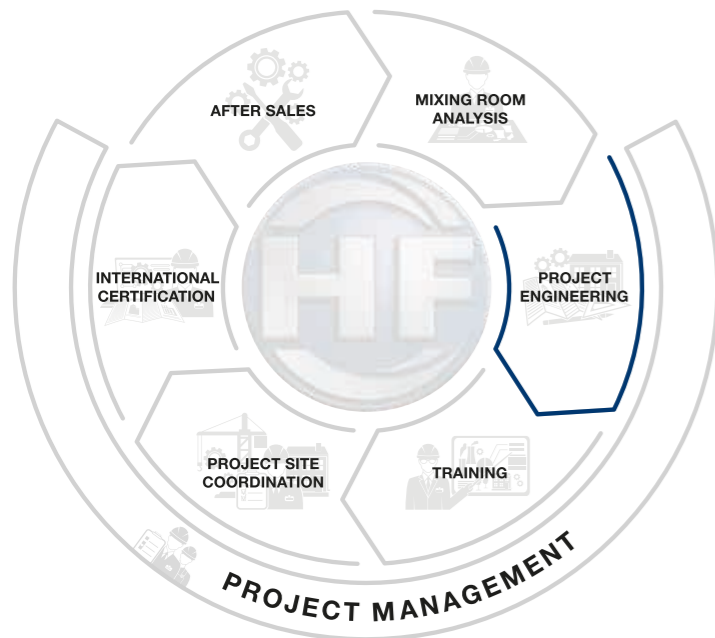
We undertake the complete planning for your new mixing room – from analysis and design through to certification. Every phase is managed by our specialists to ensure perfect coordination. You can trust in our expertise at every project phase.

- Project management (from quotation through completion)
- Supplier selection and coordination
- Project scope specification
- Scheduling and monitoring
- Resources planning
- Issue management
- Quality assurance
- Logistics management

## PROJECT ENGINEERING

A mixing room is comprised of many individual machines and components all of which need to be brought together into a single functioning unit. We know about mixers, components and downstream equipment, and the complexity of getting them to work together. Therefore we are able to produce the optimal system for your needs – efficient, interconnected and reliable.

- Pre-engineering for mixing lines
- Material flow concepts
- Equipment layout, foundation plans, steel construction design, maintenance platforms
- Consumption details for:
  - Water (connections, requirements)
  - Electrical connections (power ratings)
  - Compressed air (connections, requirements)
- Control and automation engineering
- Cabling and pipe layout
- Mixing room simulation: Factory Acceptance Testing (FAT)



## PROJECT ENGINEERING

### Production expertise

In addition to mixers, we develop any additional equipment needed for your mixing room or work closely with our preferred partners such as for the upstream equipment or batch-off.

### Mixing room automation

ADVISE® is a modular and scalable system for mixing room automation. It covers every process within a mixing room: from the raw materials store, the computer-controlled manual and fully automated weighing of small components, the mixing process, downstream equipment, and storage of mixtures. Highly developed automation systems are available for individual areas and machines. Separate applications can be selected according to requirements and merged together in a single automation system. Standard interfaces within mixing room automation systems enable easy connection to ERP systems and laboratory equipment.

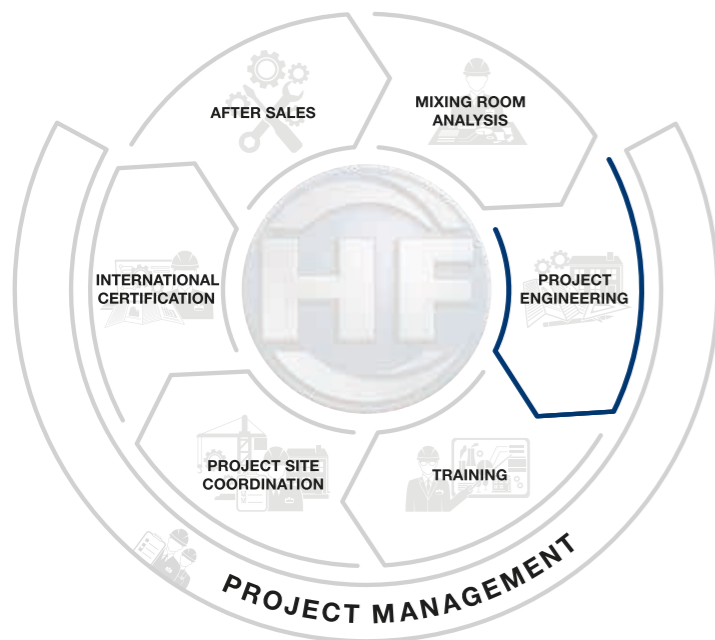
### Mixing room simulation and Factory Acceptance Testing (FAT)

We perform Factory Acceptance Testing (FAT) in advance to shorten on-site installation times for your mixing room. Vital functions undergo testing ahead of time on mixers and downstream equipment as well as an automation and control systems.

We provide you with a fully simulated mixing room for detailed testing. The winMod® software enables us to simulate and perform real-time testing on the control systems and processes of your mixing room including material flows, hydraulic functions and drive systems.

All of these reduce the on site installation times to get you back up and running quicker!

- Creation of a virtual mixing room
- Training on simulated mixing rooms
- Simulation of error scenarios to prevent failures




### MIXING ROOM AUTOMATION ADVISE®

**ADVISE® MES – Manufacturing Execution System**

- Inventory management
- Product management for multistage mixing recipes
- Intelligent production fine planning
- Information portal for Overall Equipment Efficiency (OEE) & analytics

**ADVISE® ES – Execution System**

- Automatic mixing process control
- Integrated weighing and feeding of fillers, liquids & polymers
- Downstream processing & batch tracking
- Offline weighing of small chemicals

**ADVISE® CS – Control Systems**

- Machine controls (PLC) for all mixing room aggregates in accordance with highest safety standards
- Intelligent ram position & pressure controller iRam
- Intelligent dust stop control for reduced oil usage & wear iXSeal
- Intelligent temperature control unit iTC

**ADVISE® DS – Drive System**

- Main drive engineering specific to your mixing needs
- Integrated drive controls

### PRODUCTION EXPERTISE

**Mixer**

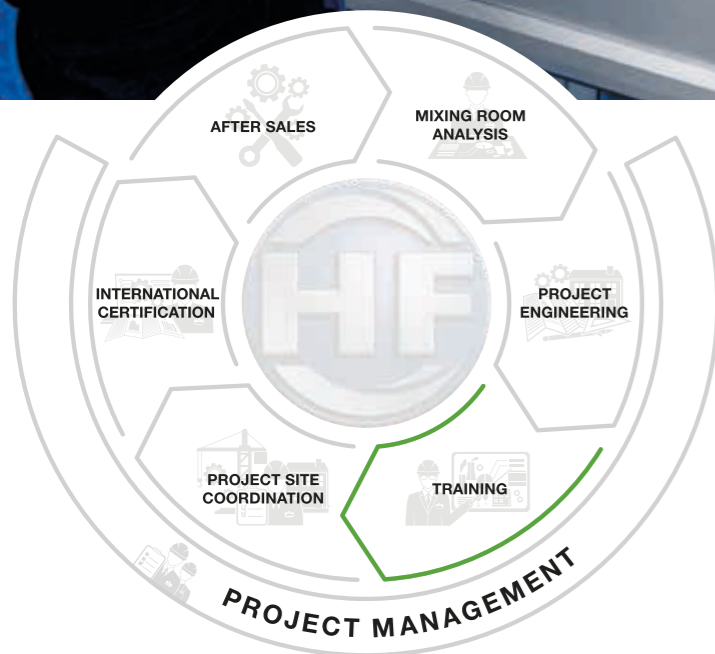
- Tangential mixer BANBURY®
- Intermeshing mixer INTERMIX®
- TANDEM
- Universal mixer UMIX

**Downstream equipment**

- Sheeting and mixing mill MILLMIX®
- Single-screw discharge extruder SINDEX®
- Twin-screw discharge extruder CONVEX®

**Cutting equipment**

- Hydraulic bale cutter BALECUT®
- Strip cutting machine STRIPCUT®



## TRAINING

To make sure you get the most from our machines, we provide intensive training courses for your staff. These can take place at our fully equipped Technical Center or at your workplace.

### Operating personnel

- Machine operation using ADVISE® CS & ES

### Process technicians

- Process engineering, process optimisation
- Production planning using ADVISE® MES

### Maintenance personnel

- Detailed machine operation using ADVISE® CS & ES
- Online visual diagnosis using ADVISE® CS
- Introduction to electrical circuit diagrams
- Hydraulic and lubrication concepts
- Regular and preventive maintenance tasks



## PROJECT SITE COORDINATION

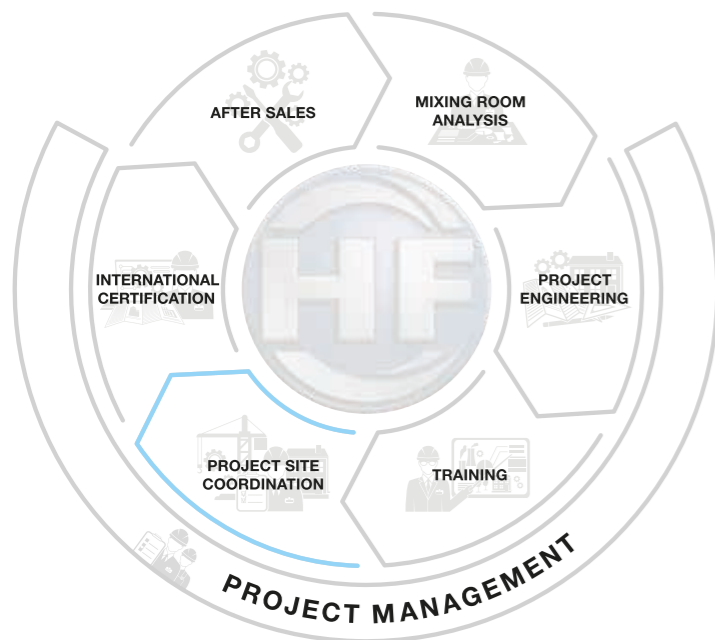
Whether the installation site is greenfield or brownfield, a dedicated site management is an essential factor in successful mixing room projects. We undertake the complete planning, coordination and supervision on your behalf for transforming your site into the perfect mixing room.

### Off-site management

- Project plan, supervision and control
- Creation of a site logistics concept

### On-site management

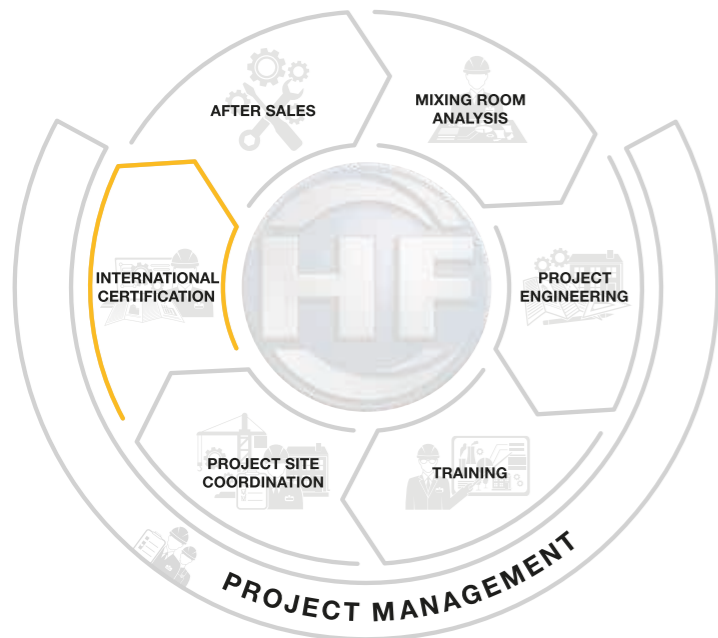
- Preparation
- Warehouse and waste management
- Integration of installation equipment and materials
- Communications and reporting
- Construction coordination
- Site Acceptance Testing (SAT)



## INTERNATIONAL CERTIFICATION

Machines and systems are increasingly subject to a number of legal requirements. A core aspect of legal compliance is product security and the provision of conformity documentation. We support you in meeting all obligations for technical documentation both for complete mixing room systems as well as for individual machines.

- Identifying standards
- Checks on existing documentation and local requirements for machinery
- Interface definitions and specifications
- Creation and implementation of risk assessments
- Conformity checks including deviation reporting
- Conformity assessment
- Creation of comprehensive operating instructions
- Declaration of conformity





## AFTER SALES

When a project reaches completion, we will not leave you on your own. To ensure you get the most from our machines, we provide reliable customer service – round-the-clock and wherever you are. A range of service agreements are

available to deliver continuous support for your complete systems, covering maintenance, replacement parts, remote servicing for automated systems, updates and upgrades, installation, inspection, and reconditioning.

## EXPERTISE THROUGH KNOW-HOW



View our expertise videos on  
[www.hf-mixinggroup.com/en/group/our-expertise](http://www.hf-mixinggroup.com/en/group/our-expertise)

### Process <sup>+</sup>

#### EXPERTISE IN OPTIMISING OUR CUSTOMERS PROCESSES

Working with you to develop and optimise your processes is important to us so we set up the industry's most modern Technical Center in Freudenberg. In its fully equipped mixing room you can test our products under real-life conditions and get expert advice from our process specialists.

### Solution <sup>+</sup>

#### COMPREHENSIVE EXPERTISE FOR CUSTOMISED SOLUTIONS

With more than 150 years of experience, the HF MIXING GROUP are the engineering experts for the polymer processing industry. Our experts are highly skilled in manufacturing and production processes and work with customers to develop the best individual solutions for them.

### Comfort <sup>+</sup>

#### PRAGMATIC SOLUTIONS

Our corporate values guide us however we are not tied to fixed principles. We solve customer problems in a pragmatic and methodical way.

### Direct <sup>+</sup>

#### EXPERIENCE OUR COMMITMENT

Direct contact between ourselves and our customers base is something of priority. Commitment, fast response times and availability are important pillars of the service we provide.

### Safe <sup>+</sup>

#### A SUSTAINABLE APPROACH FOR SAFE AND SECURE PERFORMANCE

Our approach to business is based on sustainability and the long term. This means being available to our customers at all times and providing lifetime servicing and replacement parts for our products.

[www.hf-mixinggroup.com](http://www.hf-mixinggroup.com)