

# lea[door]ship



## RAILSERVICES FOR ENTRANCE SYSTEMS



**RAILSERVICES**  
always on track

**ife** Innovations  
For  
Entrance Systems

# SERVICES FOR DEMANDING CUSTOMERS

en[door]ance

RAIL  
VEHICLE  
SYSTEMS

## RAILSERVICES FOR ENTRANCE SYSTEMS



### Assembly & Commissioning

RailServices offer a professional support from the initial installation of a door system and the accompanying training of customers' local staff up to the installation of complete entrance system series for complete vehicles. Following customer wishes, specialists will be available at customer premises at firm conditions.



### Repairs

Servicing of entrance systems is offered at fixed conditions and processing times and there is an additional possibility to plan them in regular intervals. A special advantage for the customer is the use of original IFE spare parts and modern testing tools which are being used for the generally defined standards and test procedures.



### Maintenance

In order to permanently operate an entrance system efficiently, maintenance work must be carried out at regular intervals. In the framework of our services we also offer preventive maintenance contracts over the whole product life-cycle. The customer benefits from the experience of our service engineers, a high delivery availability and a solid quality of the original spare parts and the works carried out.



### Modernization

In order to also keep existing vehicles at the leading edge of technology, RailServices offer consultancy, engineering and implementation of possibilities for modernization such as software updates, control system upgrades, retrofitting of new safety systems or the installation of completely new drives. This allows for entrance systems which have been in service for years to cope with the increased requirements.

## IFE RAILSERVICES OFFER A COMPLETE SERVICE PORTFOLIO

including operating and maintenance services, as well as system, vehicle and component modernization, re-engineering and overhaul, materials management and logistics programs.

## SERVICE HAS BECOME A DECISIVE SUCCESS FACTOR

- Integration
- Maintenance
- Reconditioning
- Repairs
- Spare parts management
- Modernization
- Customer service
- Training

## CUSTOMER BENEFITS

- Comprehensive product expertise
- IFE original spare parts
- Service always based on the most up-to-date technology

## PRESENCE

- Central after-sales/service centre in Kematen/Austria
- After-sales/service centres in all regions
- After-sales/service support locations in many countries

## LIFETIME PARTNERSHIP

More than 500,000 currently operating entrance systems worldwide are our guarantee of quality and comprehensive service.



# ORIGINAL MANUFACTURER SPARE PARTS



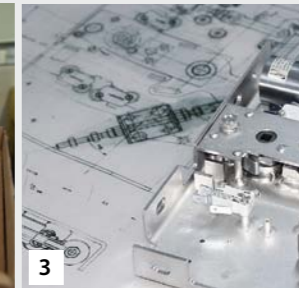
**ORIGINAL SPARE PARTS FROM IFE ENSURE ENTRANCE SYSTEM RELIABILITY AND PASSENGER SAFETY,** they are our values for every service activity.

## ADVANTAGES

- Guaranteed availability
- Uncompromising reliability
- Unbeatable durability
- High quality standards
- 95 % on time delivery
- 600.000 parts delivered p.a.
- 25.000 parts in IFE portfolio

## FURTHER MORE

- Future product improvements and developments can be included in previous-generation spare parts
- Parts supplied in kits (per doorway or vehicle manufacturer) as logistical support for planned overhauls
- Clear identification in spare part catalogues and parts lists
- Registration also possible using customer part numbers
- Replacement solution, in case original parts are discontinued, design engineers are involved to ensure correct interfaces and quality
- Obsolescence management – Stockpiling to ensure long-term supply of individual components (e.g. various parts from old-generation control unit)



RAIL SERVICES FOR  
ENTRANCE SYSTEMS  
RAIL  
VEHICLE  
SYSTEMS

### 1 AVAILABILITY OF SPARE PARTS

- Long-term supply of original spare parts
- Price list, lead time
- Spare parts are available for the brands IFE, Kiekert, Tebel, Wiener Metallwerke, Hübner and IGE

### 2 LOGISTICS

- Small quantities
- Kit packaging possible
- Transport organisation
- Delivery plans, regular dispatches

### 3 REPLACEMENT SOLUTIONS

- Discontinued parts
- Component improvements
- New technologies

### 4 FRAME AGREEMENTS

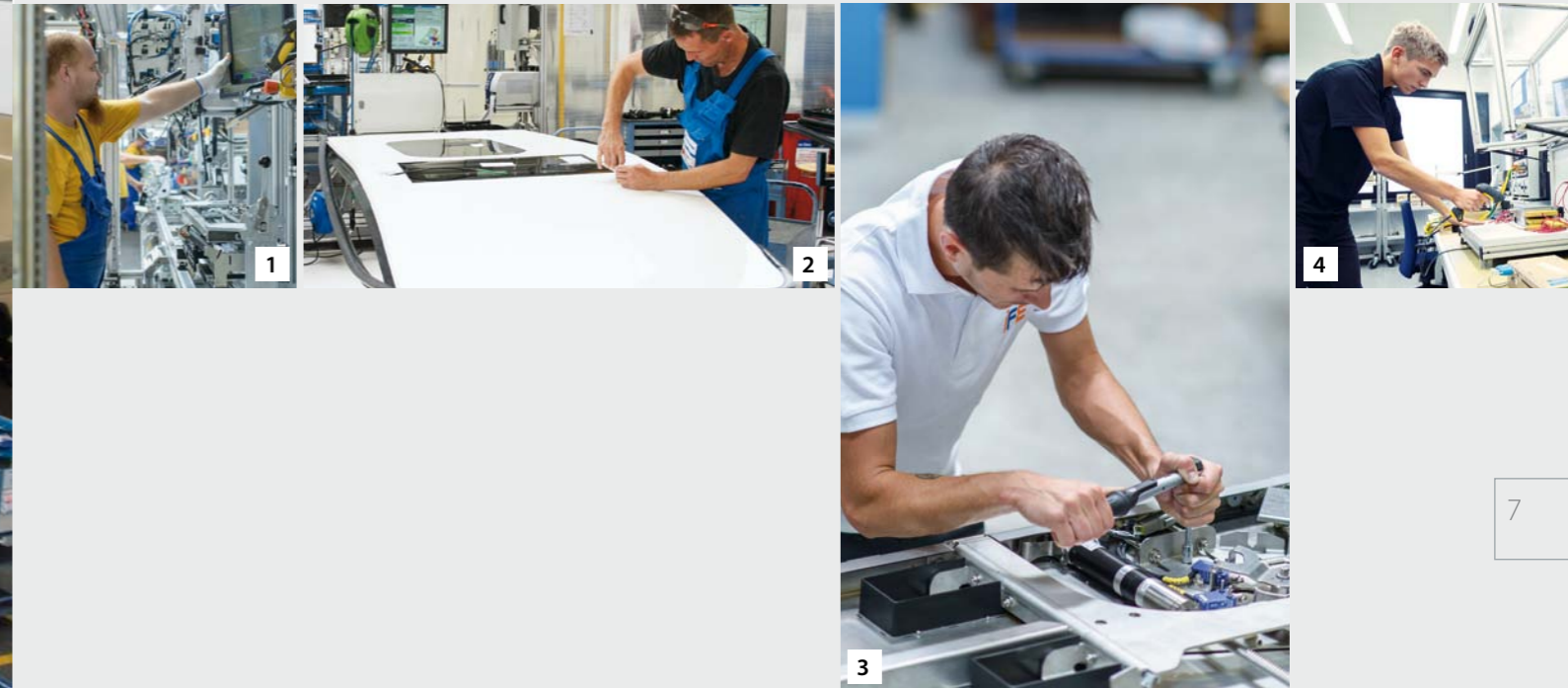
- Agreed prices
- Defined leadtimes
- High delivery performance
- Fast processing

# REPAIRS AND OVERHAUL AT THE SERVICE CENTER



RAIL SERVICES FOR  
ENTRANCE SYSTEMS

RAIL  
VEHICLE  
SYSTEMS



**IFE MEETS THE HIGHEST QUALITY ASSURANCE STANDARDS.** IN CASE OF damage, material wear, faulty operation or vandalism, we offer experienced and cost-effective repairs including:

## ADVANTAGES

- Use of original parts
- Defined processing time
- Implementation of repairs by experienced experts
- Functionality and performance guarantee

## TURNAROUND TIME

- Unplanned 30 - 60 days
- Planned 5 - 15 days, at defined rates

## FURTHER MORE

- Minimal processing times due to direct and effective processing in the service centre
- Testing and repairs with the most up-to-date technology
- Technical report on repaired components

### 1 DOOR DRIVE REPAIRS

The drive function is tested on series testing rigs following repairs with documentation and test report.

Comprehensive testing ensures high quality of the repaired or overhauled drives.

### 2 DOOR LEAF REPAIR

Final assembly after repainting. Structural repairs are also available.

Up-to-date standards are applied for special processes such as bonding (DIN6701) or welding (EN15085).

We repair single parts on demand as the need arises. Fleet overhauls of large numbers of components are conducted in a planned process and can be turned around within a short time.

### 3 STEP RECONDITIONING/REPAIR

Planned „just in time“ reconditioning of steps and drives for an entire fleet can be offered.

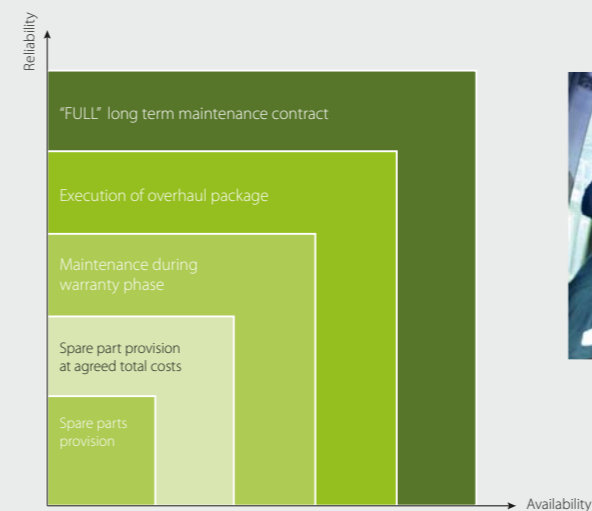
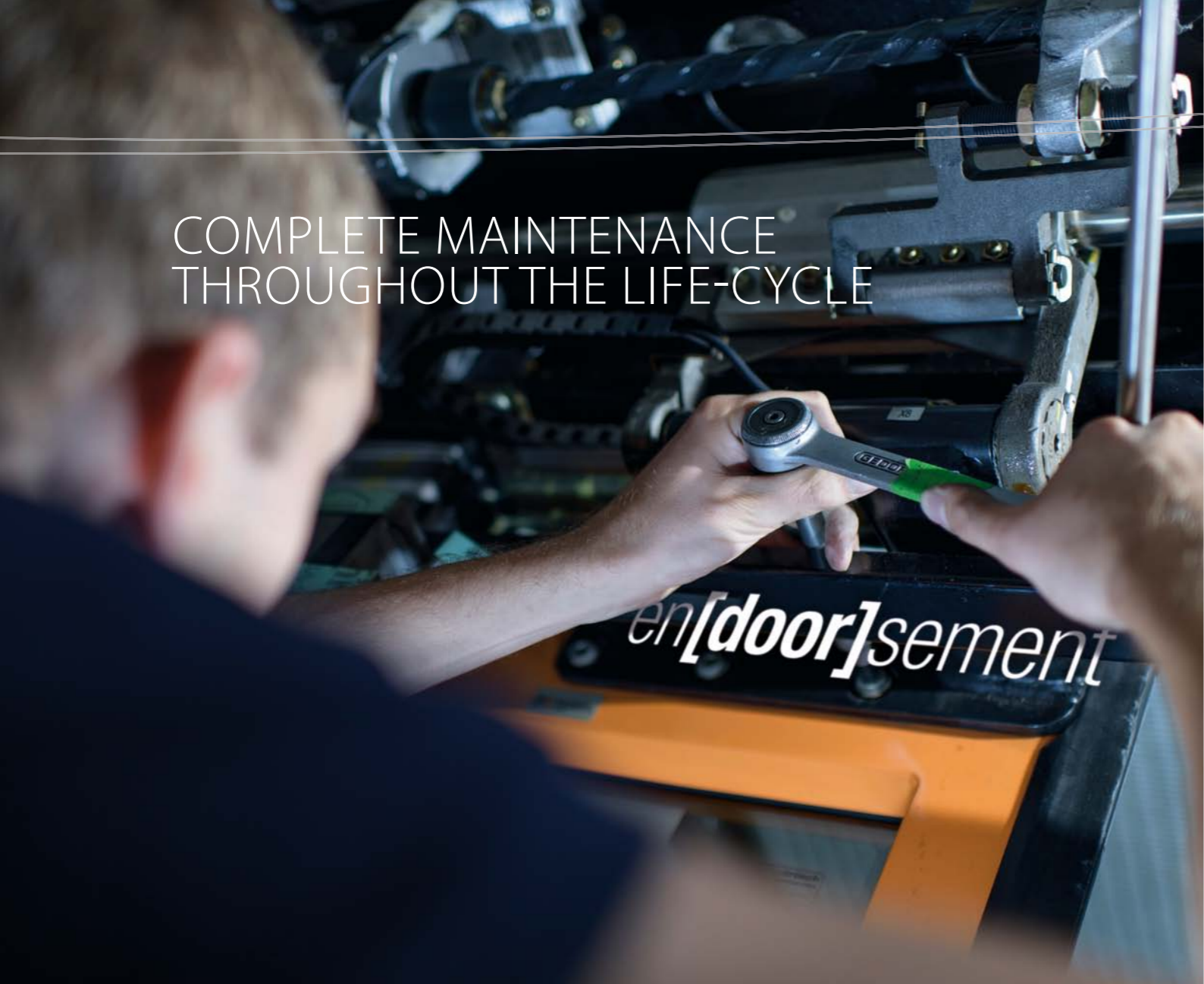
Full function test ensures reliability in service.

### 4 DOOR CONTROL TESTING/REPAIRS

Our electronics laboratory has the latest testing devices for IFE control units. We carry out initial testing, repairs, test runs, diagnostics and final testing.

Our fixed repair rates include fault finding, repair of failed components but also preventive change of components based on statistic analysis to reliably ensure longterm performance after repair.

# COMPLETE MAINTENANCE THROUGHOUT THE LIFE-CYCLE



**EVEN THE MOST MODERN ENTRANCE SYSTEMS REQUIRE A MINIMUM OF MAINTENANCE** to be carried out at regular intervals. Maintenance scope can range from regular safety tests and cleaning and greasing at pre-determined intervals, to more extensive measures in the course of overhauls.

## ADVANTAGES

- Service conducted by experienced local service staff
- Optimization of processes and downtime
- Agreed cost levels
- High reliability and availability of the products

IFE offers the possibility of outsourcing entrance system maintenance in various packages, making conventional maintenance by the vehicle operator a topic of the past.

- Daily on-train maintenance
- Regular on- or off-train maintenance
- For customer defined duration, entire lifetime or shorter time periods (e.g. ten years)

All maintenance activities include a guarantee of perfect work quality. IFE uses experts and qualified personnel only, trained according to current testing and safety regulations.

## CUSTOMIZED SOLUTIONS FOR OUR CUSTOMERS

IFE offers tailored solutions for customers ranging from spare part packages through to complete maintenance and integration.

Advantages include the assurance of optimal availability and guaranteed reliability of door systems with comprehensive maintenance.

## MAINTENANCE DURING THE WARRANTY PHASE

- Parts
- Consumables
- Preventive maintenance
- Repairs on demand

## LONG-TERM MAINTENANCE CONTRACT

- Spares provision, consumables
- Preventive maintenance
- Corrective maintenance
- Obsolescence management
- Repairs on demand

## OVERHAUL CONTRACT

- Dismantling from train
- Off-train overhaul
- Reassembly
- Test
- Repairs on demand

## MODERNIZATION TO EXISTING ENTRANCE SYSTEMS

high standards



**APPLICABLE STANDARDS AND REGULATIONS AS WELL AS PASSENGER AND OPERATOR DEMANDS** change over the life time of a rail vehicle and create need for modernization.

### ADVANTAGES

- Installation-ready system that can be rapidly retrofitted at the operator's service centre
- Turnkey solution (customer delivers the vehicle for retrofitting and IFE returns it within agreed time, ready for passenger operation)
- Independent organisation of the installation site (with regard to delivery, supply of material to the vehicle, installation and handover)



1

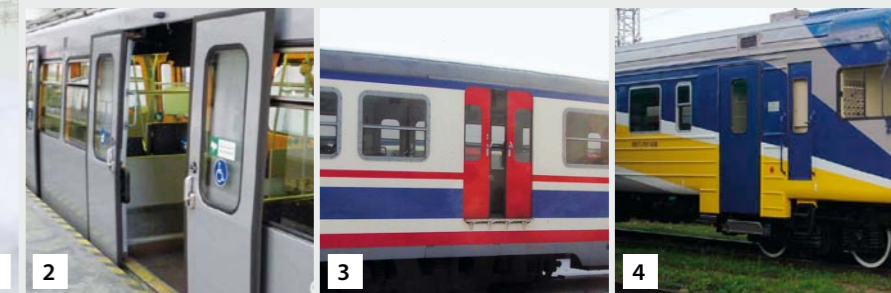
2

3

4

## RAILSERVICES FOR ENTRANCE SYSTEMS

RAIL  
VEHICLE  
SYSTEMS



### 1 MODERNIZATION OF DOOR CONTROLS

- Standardised new control system for the whole fleet includes new functions if requested

### 2 RETROFITTING OF OBSTACLE DETECTION SYSTEMS AND CLOSURE WARNING

- Delivery and installation of safety edges and related controls incl. installation and handover of the vehicles

### 3 ENTRANCE SYSTEM MODERNIZATION

- Replacement of worn pneumatic drives with electric door drives incl. the necessary cabling and complete installation
- Integration in existing vehicle using existing door leaves
- Work implemented by local service staff

### 4 APPLICATION OF NEW ENTRANCE SYSTEM

- Installation of winterproof sliding plug door replacing old pneumatic door system

### REASONS FOR MODIFICATION

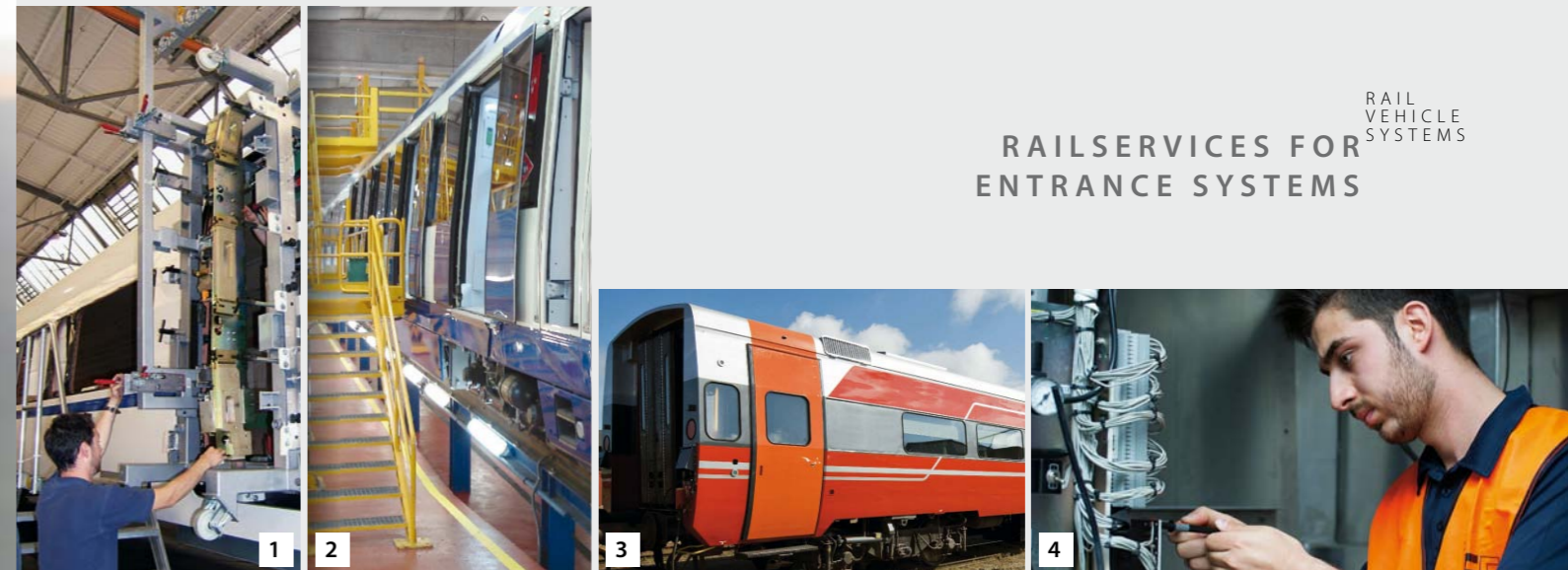
- Implementation of new functions (software updates as well as hardware modification)
- Replacement of pneumatic door systems with electric drives to improve reliability, safety and energy efficiency
- New door control designs (e.g. connection to the train communication system)
- Improved passenger safety through the integration of electric detection systems for obstacle detection
- Mechanical modifications to door systems to allow higher speeds

### IFE SCOPE:

- Engineering, project management
- New electric drive and door control, leaves
- Mechanical installation
- New cabling
- Testing and commissioning

# INSTALLATION AND COMMISSIONING

legen[door]ly



RAIL SERVICES FOR  
ENTRANCE SYSTEMS

**THE SKILL AND EXPERTISE NEEDED FOR INSTALLING ENTRANCE SYSTEMS** are developed over years of experience. Only correctly installed entrance systems work reliably. IFE installs doors quickly, reliably and professionally thanks to long term experience, with the necessary precision.

## ADVANTAGES

### Single point of responsibility for system development, production and integration

Highest possible performance in terms of

- Total fixed costs (series delivery and integration)
- System responsibility and reliability requirements
- Clear and overarching responsibility in case of door malfunction

### DOOR INSTALLATION AND ADJUSTMENT ARE THE SUCCESS FACTORS

- Sealing and passenger comfort
- Commissioning phase: around 25% of all malfunctions are due to incorrect installation/adjustment
- Wear (service life/reliability)

### 1 INSTALLATION CONCEPT AND EQUIPMENT (IN THIS CASE FOR A HIGH-SPEED TRAIN)

- Workshop to determine
  - Installation procedure
  - Establishment of work spaces
  - Material flow concept
- Design, production and calibration of installation equipment
- Integration and commissioning including handover to the customer

### 2 SERIES INSTALLATION USING INSTALLATION EQUIPMENT IN CUSTOMER'S FACTORY

- Installation of entrance system
- Adjustment and commissioning of the door system
- Handover of the entrance system to the customer

### 3 SERIES INSTALLATION FOR A CUSTOMER'S RETROFITTING PROJECT

The work included among other things:

- Portal preparation
- Installation of the entrance system
- Adjustment and commissioning of the entrance system
- Handover of the entrance system to the operator

### 4 FULL SCOPE INCLUDING FINAL TEST

- Mechanical installation
- Adjustments
- Checks
- Function tests
- Documentation

### FRAMEWORK AGREEMENTS WITH ROLLING STOCK MANUFACTURER FOR COMPLETE INTEGRATION THROUGH TO COMMISSIONING

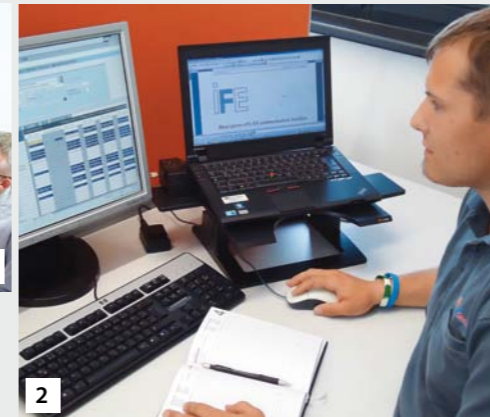
Agreements for complete integration of the IFE entrance systems in the vehicle manufacturer's factory, to ensure central responsibility for delivery and installation. IFE works in the customer's various factories according to a prescribed, optimised process with experienced fitters and technicians.

WORLDWIDE SERVICE

mo[door]nity

RAIL SERVICES FOR  
ENTRANCE SYSTEMS

RAIL  
VEHICLE  
SYSTEMS



**WE HAVE BEEN ACQUIRING COMPREHENSIVE EXPERIENCE** in field service and training for more than 60 years. This allows us to provide tailored, individually designed service packages to our customers today.

### ADVANTAGES

- Training from first hand
- Qualified service staff
- Efficient fault finding
- Inspection to ensure reliability and safety

- Up to 100 service technicians available worldwide
- Service support locations in the regions, service hotline, standardised service rates for all types of services

### 1 TRAINING

Together with initial installation, we offer all types of training either on the train or at our premises using serial system mock up's.

- Installation/commissioning
- Maintenance/troubleshooting and rectification
- "Train the trainer" seminars

### 2 FIELD SERVICE

Based on the contractual service level chosen for a given project, we ensure the availability of qualified service technicians. Experienced specialists are available to answer any questions regarding installation, commissioning and repair. Upon request and corresponding agreement, this service is also available worldwide on-site, around the clock.

### 3 INSPECTION

Various types of inspections are offered:

- Final handover inspection to ensure correct installation of entrance systems by vehicle manufacturer
- Delivery inspection to ensure correct installation of entrance systems upon train certification
- Safety/maintenance inspection for regular checking of proper maintenance and safety of the door system
- Reconditioning inspection to inform the customer of maintenance status and required reconditioning measures for entrance systems

### 4 TESTING DEVICES

System installation and commissioning are supported by additional testing devices such as

- Doorjack
- Diag Studio
- ST03A