

# EVAC TRAIN

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ZODIAC  
AEROSPACE



# The Zodiac Aerospace Group

Mastering the elements

**Evac Train** is a member of the Zodiac Aerospace Group, which is a world leader in aeronautics equipment and systems for commercial, regional and business aircraft, as well as helicopters and space applications. Its main areas of expertise are comfort and conditions on board aircraft, onboard systems and safety, both in flight and on the ground.

## Key figures (2012/13)

**3.9**

billion euros in sales revenue

**30,000**

employees around the world

**14.5 %**

operating margin



### ENHANCING

equipment and systems for the benefit of the aerospace industry



### GROWING

in high-tech high value-added markets



### RESPONDING

to new challenges in aeronautics



### EXPANDING

know-how for a consistent global range of products and services



### DESIGNING

for increased safety, comfort and performance



### MANUFACTURING

for sustainable development

# Integrating Excellence

System integration at its best

Railway systems are much more than the sum of their parts. Their reliable day-to-day operation is a vital part of the infrastructure of most societies all over the world. Ever faster, ever more comfortable and ever more interconnected, railway systems feature a high degree of complexity. Seamless interaction of a large number of sophisticated subsystems is essential. Failure of subsystems can affect overall performance severely.

For more than 40 years, Evac solutions have been known for outstanding reliability, efficiency and low maintenance. As the world's leading provider of completely integrated sanitary systems for trains, we have been generating state-of-the-art components with "built-in" field experience of about 80,000 vacuum systems installed worldwide – and counting.

With extensive expertise and rigid quality assurance, we develop and integrate high-class components into seamless systems that, just like railways, are much more than the sum of their parts – individually tailored for the demands and conditions of vastly different markets in many countries. Introducing a maximum level of performance and stability into any system while using minimum resources and space is our day-to-day business. This is why integrating Evac is integrating excellence.

# Integrating Challenges

46 countries. Countless requirements. No limits.

Evac systems travel the world. And they do so in any climate, whatever the weather. The versatility of our specially made solutions is almost legendary: Some of them master temperature changes between minus 40 and plus 70 degrees Celsius at an altitude of up to 4,000 meters in the spectacular Tibet railway.

Others get catapulted to top speeds of more than 370 miles per hour aboard sophisticated maglev trains, where light weight and sturdiness are essential. And then there are many systems that brave the challenges of extremely heavy usage in commuter trains on all continents.



**The bottom line: Even the most adverse conditions cannot stop an Evac system. We are ready for every new challenge.**



### North America | USA

When President Obama travelled to Washington by rail to commemorate the train ride President Lincoln took before his own inauguration, Evac rode with him by providing four sanitary systems.



### Africa | South Africa

Evac's testing procedures are individually adapted for every market. In South Africa, the standard FAI (First Article Inspection) routine involves flushing the bones of half a chicken through the system.



### Europe | Russia

There was 'Olympic ennui' for the Evac technician aboard the new railway connecting the Olympic Village to the mountains above during the Sochi games: He wasn't needed once.



### Asia | Tibet

Thin air. Permafrost. Icy storms. Risk of earthquakes: Even under the most adverse conditions aboard the world's highest railway, Evac systems guarantee continuous availability.

HISTORY

- 1965** →

Electrolux buys patent "sanitary vacuum technology" from Mr. Joel Liljendahl
- 1968** →

First vacuum system installed in train & marine application
- 1975** →

EVAK Development project started by Wärtsilä & Tammissaaren posliini and Euroc & Ifö Sanitär
- 1979** →

EVAK Company established
- 1985** →

Acquisition of Electrolux vacuum business including Envirovac Inc. EVAC Trade name starts
- 1992** →

Sanivac GmbH, Wedel, Germany established
- 1999** →

EVAC Vacuum Systems established. Fusion of EVAC AB and Sanivac DE

# Integrating People

The vital ingredient for truly exceptional results

With more than 80,000 systems in operation, Evac Train is the world's leading player in the field of vacuum systems and sanitary system solutions. As a part of the international Zodiac Aerospace group and with own sites in Germany, the USA and China, Evac ensures the optimum worldwide availability of both products and services.

## Scope of performance

As a strong business partner, Evac's knowledge and services can be relied upon at all times. **Our highly skilled and experienced engineers and project management teams guarantee:**

- » Comprehensive and train-specific know-how
- » Global project management
- » Technical in-depth competence
- » Time and cost saving attitude
- » Reliable solutions with optimum technical features for any requirement
- » Lean production

Selection of references:



We believe that for outstanding results, interactions between people are just as essential as the interactions between system components. In more than four decades of integrating excellence, we have built an unrivalled base of experience and expertise.

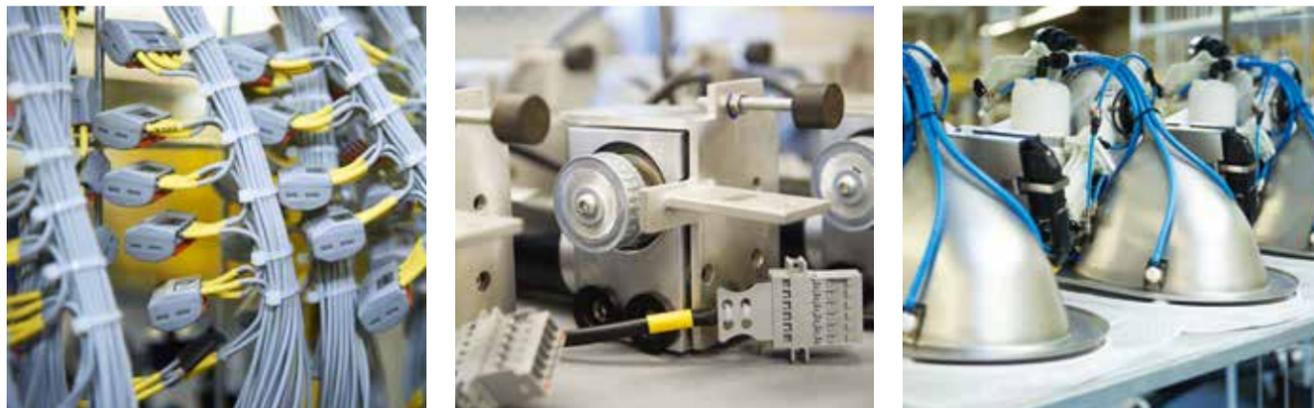
Our diverse, international staff are always there to leverage that expertise, making that crucial difference every step of the way and pushing our limits ever further.

We are used to dealing with complex systems. But we also know how to make things easy for our clients: with the technology and service network of a global market leader – and the accessibility, flat hierarchies and open-mindedness of a family-run business.

As an employer of excellence, we are proud of our low staff turnover, which also ensures a high level of continuity in customer service.

# Integrating Technology

Convincing and reliable: our products



- » Every single product designed to meet highest technical expectations
- » Continuous innovations and updates guarantee future-proof investments
- » All products extensively tested and tailored to our clients' specifications
- » Proven reliability due to long-term usage over decades

As the worldwide technology leader in its field, Evac supplies major railways all over the globe with integrated systems and components for sanitary modules in trains and buses. Evac continually improves its products, increasing functionality and reducing life cycle cost at the same time. Extensive research and development generate new ideas and products featuring state-of-the-art technology for diverse international markets. With its widespread experience, global presence and in-depth know-how, Evac is ideally positioned to provide innovative, market-specific services – setting standards and mastering sophisticated challenges as the partner of choice for demanding clients.



#### Cabin modules

- » Universal cabins
- » Standard cabins
- » Staff cabins
- » Urinal cabins

#### Cabin interiors

- » Baby change table
- » Automatic door gear
- » Hand dryer
- » Dispenser
- » Water taps

#### Vacuum toilet systems

- » EVAC COMPACT
- » EVAC 2000
- » EVAC ONLINE

#### Control and communication systems

- » Toilet system controllers
- » Control boards
- » Human machine interfaces
- » Sensors and displays
- » Buttons and indicators

#### Water and waste systems

- » Fresh water systems
- » Grey water systems
- » Waste water systems

#### Treatment systems

- » Grey water re-use systems
- » Enviroclean™ systems
- » Water filter systems
- » Odor filter systems

#### Maintenance Equipment

- » EVAC M.A.T.E.
- » EVAC Hand Terminal
- » EVAC S.A.M.T.

# Integrating Quality

Outstanding performance. Certified.

Evac's commitment to quality is a key factor for our success. Thoroughly establishing and continuously improving quality standards and concepts with both our clients and suppliers is an integral part of our day-to-day operations.

Only maximum attention to quality down to the tiniest detail ensures the reliability, availability and frictionless operation that are paramount for sanitary systems. Our clients have come to expect our products and services to meet the highest standards, and we take pride in exceeding their expectations.

Even the tiniest components undergo rigid individual tests before they get a chance to become part of an Evac system. And once they are integrated, the next round of tests pushes the interplay of all parts to the limits.

With contractual conditions for both process and product quality likely to become even more demanding in the future, Evac, the expert in system components and system integration, stands for real added value and makes a real difference to the long-term success of our clients' projects.

At Evac, every member of staff feels a personal responsibility for the quality of our products. This individual sense of responsibility adds an additional dimension to our continuously improved quality management.

Furthermore, we gain valuable information on upcoming demands and requirements through regular exchange with our clients and intensive market research – information we immediately introduce into our product update and development process, resulting in a continuous stream of innovation.

Our quality management system is tailored for a very demanding, special market and the varying requirements of countries all over the world. Evac is certified to ISO 9001 and was the first company in its market to meet the International Railway Industry Standard IRIS.



#### Examples of knowledges and certificates:

- » IRIS
- » FMEA calculations
- » Welding certified acc. to EN 15085 CL1
- » Bonding certified acc. to DIN 6701
- » Member of DIN FSF committee working on EN 45545 standard
- » Design acc. to TSI-PRM regulations



# Integrating Service

Outstanding support on every level

At Evac, we feel that value and trust are central ingredients of any quality relationship. Ingredients that extend far beyond our products and on to our extensive range of services. From small repairs to complex re-configurations, our international team is sure to have the right answer to your needs – wherever you are.

As the world's leading company in our market sector, we are in the unique position to offer truly global service. Evac is always close. And even though urgent assistance is rarely needed with our systems, we are glad to offer a wide range of highly responsive support services performed by qualified and attentive staff in almost 50 countries, from pre-sale through installation to after-sale care.

As with our products, our services are continually evolving. For example, we are aware of an increasing demand for full-service, 100% worry-free solutions: technology and support in one, highly competitively priced package. These packages can be just as individually tailored as our systems, and they are every bit as reliable as any hardware we offer. And if you are not sure if we have what you need – do not hesitate to get in touch. We are looking forward to hearing from you!

- » Fast and straight-forward help – whenever, wherever
- » Optimum availability of all products and parts at all times
- » Sophisticated and highly responsive spare-part logistics
- » Individual spare-part concepts and service packs with guaranteed availability levels
- » Technical support during installation and commissioning
- » Full after-sales service including maintenance, workshops and training sessions as well as advice on cost-efficient modernization and optimization of existing systems



## Evac Train. Integrating Excellence.

Railway systems are facing a bright future. Increasing speeds, increasing levels of comfort and increasing passenger numbers, combined with a heightened awareness for environmental issues and limited resources, consistently raise the bar for product and service quality. We look forward to the opportunities and challenges that lay ahead – ready to integrate excellence into projects and systems all over the world.

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