



## KRÜGER AVIATION

*specialized  
in plastic*

With nearly 100 years' experience in manufacturing plastic parts the Krüger Group is one of the biggest pioneers of the industry. Meeting the increasing requirements of the industry and fulfilling our customers' needs has been, and always will be, the main focus of the Company.

For this reason, we decided to concentrate the aviation business of the group in a specialized company and founded the Krüger Aviation GmbH in 2016. A technologically advanced manufacturing company dedicated solely to supplying the modern aviation industry. Since 2021 Krüger Aviation GmbH is a fully independent entity.

### Market Sectors:

- Lavatory
- Lighting
- Seating
- Trading
- Cabin

### Employees

- 40 highly qualified aviation experts

### Certifications

- EN 9100
- EN 9120



## THE AIRLINE LAVATORY REIMAGINED

### From Babies to Business Leaders: The Airline Lavatory Reimagined

The K2 FUTURE LAVATORY® is an innovative design concept that, for the first time, simultaneously meets the demands of families, business travelers, and passengers of different cultures. By maximizing room space and passenger comfort, it is an ideal contender for the "Passenger Comfort" category of the Crystal Cabin Award.

Our application is divided into the following sections:

- The multicultural lavatory: a world-first innovation
- A diaper-changing dream station
- Traveling in style
- More room to move comfortably
- Safe, secure, and sparkling clean
- Win-win for both customer and airline

See all features animated



Link:  
[http://www.krueger-aviation.de/en/crystal\\_cabin\\_award\\_2019/](http://www.krueger-aviation.de/en/crystal_cabin_award_2019/)



## A WORLD-FIRST INNOVATION

### The multicultural lavatory: a world-first innovation

Airlines fly around the world, so why do their lavatories still fail to accommodate different cultures' toilet habits? After all, people from cultures in which squat toilets are common are often reluctant to use western-style toilets. And people used to western toilets will hardly appreciate finding shoe prints on the toilet seat.

Our revolutionary K2 Future Lavatory® resolves these issues by allowing passengers to sit or squat, according to their custom.

Moreover, its K-Reflexion KRX070® mirror features a customizable digital display panel on the left-hand side that can be configured to the languages used on-board, or to display images for illiterate passengers. It shows safety instructions, flight data, information on the lavatory's multicultural design, and advertising. When switched off, the surface serves as a perfectly clear mirror.

### Innovations:

- The first-ever multicultural toilet
- (squat and western combination)
- Multilingual information and warnings
- Animated safety messages for illiterate passengers



## A DIAPER-CHANGING DREAM STATION

With more families spreading across the globe, babies and small children are becoming frequent fliers. Long-haul flights with babies and infants, though, can be especially challenging. On-board diaper-changing tables are extremely narrow, the child often must lie in an uncomfortable position, and the atmosphere in unwelcoming to young children.

The K2 Lavatory's diagonally positioned toilet allows for a larger changing table on which the child can lie fully lengthwise. As the changing table is folded down, the room transforms: animations are projected on the wall in the child's view and accompanying sound effects play, keeping the child entertained and calm, which in turn increases safety.

The washbasin and waste bin are located directly next to the table, eliminating risks associated with turning away. Here, safety and comfort are paramount.

### Innovations:

- Ergonomic design
- Child-friendly atmosphere thanks to projections and sound
- Spacious and safe workspace



## TRAVELING IN STYLE

The ground-breaking concept features additional innovations for business travelers. The toilet lid doubles as a seat or a clean area for setting down personal belongings, which means changing back into business attire after a long flight in comfortable sweatpants has never been easier.

The full-length mirror and two wing mirrors allow travelers a near-360° view, and the cosmetic mirror ensures perfect styling. Need to stay up-to-date while shaving or applying make-up? The integrated screen behind the KRX070® mirror can display flight data, information on connecting gates, and much more.

An embedded storage compartment next to the toilet is good for storing cosmetics or a cell phone, and the handrails are multi-purpose: a feature for safety, but also for hanging bags and clothes.

### More room to move comfortably

Our design priority was heightening passenger comfort while significantly increasing mobility within the room. The diagonal position of the toilet succeeds at both.

The large mirrors further enhance the sense of space (green lines in the topleft photo), as does the subtle lighting, which, together with tranquil background music, also creates a cozy atmosphere.

All of the elements are clearly described by means of illuminated pictograms, allowing users to quickly find their way around.

### Innovations:

- More space thanks to an optimized room concept featuring numerous mirrors
- Serves as both a lavatory and a dressing room
- A mirror view of nearly 360°
- Up-to-date flight information
- Innovative wing mirror layout for improved styling



## WIN-WIN FOR BOTH CUSTOMER AND AIRLINE

While the concept primarily increases passenger comfort, it also decreases stress for operators by ensuring quick and easy access to equipment:

- The K2 EasySwap® basin can be quickly removed to allow access to the area below it
- The sliding cabinet door is a functional update to former used obstructive cabinet doors
- The extricable equipment carrier and waste bin enable quick and easy maintenance access
- The mirror cabinet doors open easily, enabling flight attendants to quickly replace paper towels
- Complimentary accessories such as toothbrush boxes and wet wipe packs can be speedily replaced during the flight

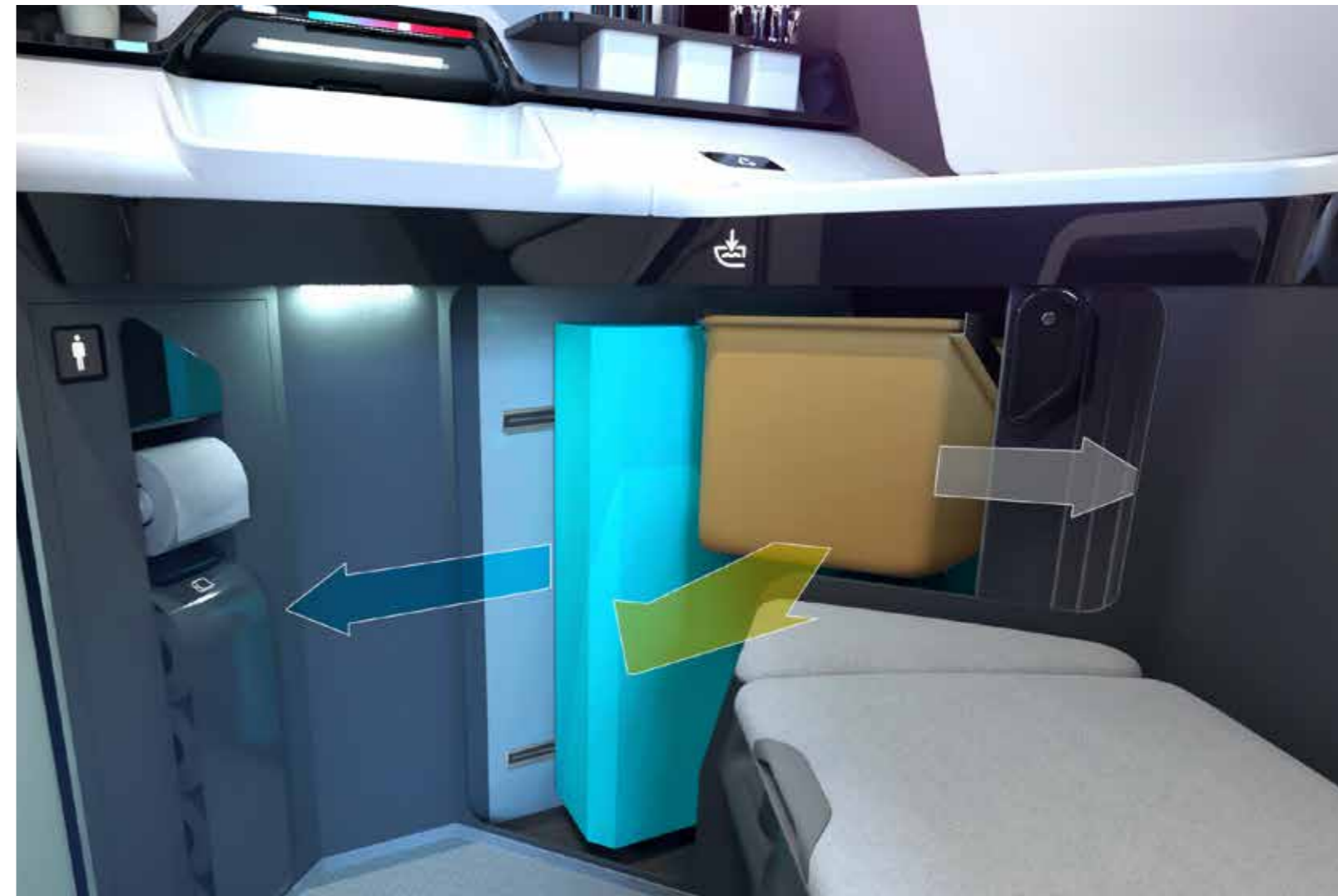
The covers and surfaces in the lavatory mainly comprise the newest lightweight, thermoformed plastic parts, which are very easy to replace.

Moreover, thermoplastic materials such as Kydex can be manufactured in various designs, colors, and surfaces, and are therefore easily customized.

The puddle-less design relieves air attendants' cleaning workload during flights. The lavatory's revolutionary features, including its maintenance-friendly design, easily replaceable components, capacity for customization, and cost-effective manufacturing methods (thermoforming), yield immediate and obvious cost savings for the airline.

### Innovations:

- Sliding cover for simple maintenance
- K2 EasySwap® basin for easy exchange
- Semi-transparent KRX 070® mirror for in-mirror information



## SAFE, SECURE, AND SPARKLING CLEAN

What happens when a passenger falls during turbulence, but the "call attendant" button is located all the way above the washbasin?

How can they reach it? And what if they're hurt? This lavatory has the solution:

an additional alarm button located at floor-level, making it accessible even after a fall.

The passengers can also steady themselves easily during turbulence, regardless if they are standing, sitting, or squatting.

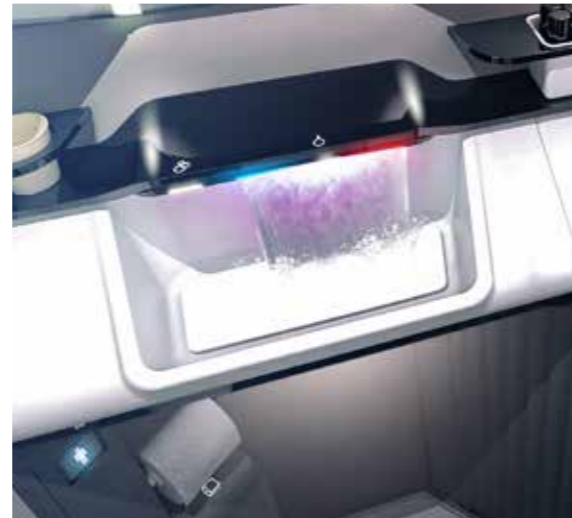
The innovative waterfall faucet with a sliding temperature control and integrated automatic soap dispenser sets new design standards. The deep washbasin and the slight inclination of the entire unit prevent puddles from forming.

This keeps the surfaces free of water splashes throughout the flight. All surfaces and compartments have also been specifically designed to be easy to clean.

The drain cover, designed to reduce spray, also prevents blockage and the lack of gaps or movable components ensures maximum cleanliness.

### Innovations:

- Additional call attendant button at floor level
- Large warning signs in the appropriate languages
- No puddles/ water remnants thanks to sloped surfaces
- Concealed drain
- Little splash water





# KRÜGER AVIATION & ZWEIGRAD DESIGN

## a powerful partnership that gives creativity wings

It began with a simple idea and two highly motivated teams — the K2 Lavatory. All the participants in a joint creative workshop realized instantly how much potential this assignment would have if development focused on problems that all kinds of passengers face. This symbiosis of creativity, design and construction yielded an astonishing range of improvements and additional benefits.

The Lavatory matures during a structured development process in which all work results are tested and improved immediately using simple prototypes — physical and virtual — into a fully designed functioning model. The Lavatory is an emotional project that fused the partners together, with their motivated employees burning with passion and expertise for their craft, driven to find the best solution that suits all passengers — ultimately giving the project its wings.

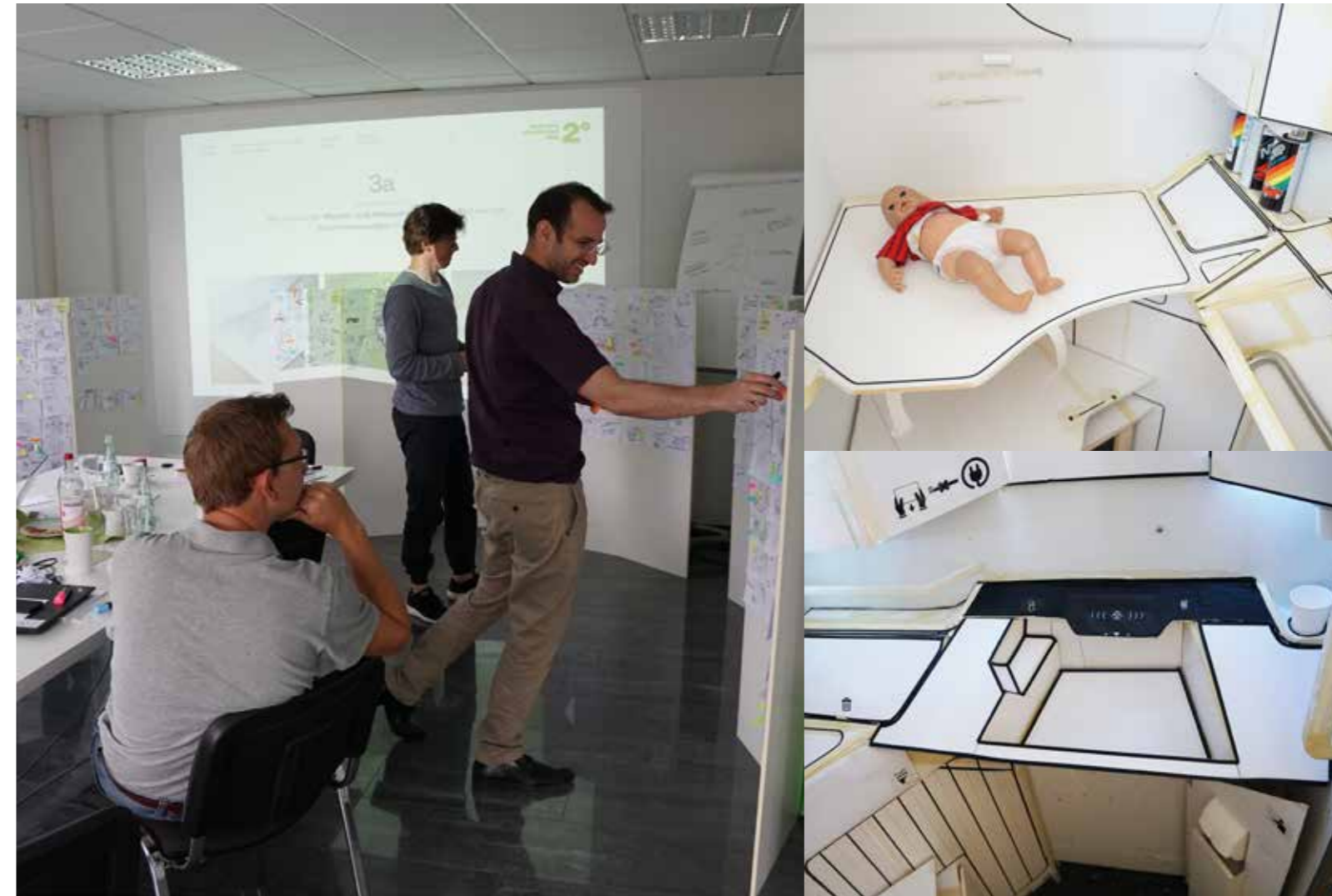
And as you can see — we had a lot of fun, too!



[www.krueger-aviation.de](http://www.krueger-aviation.de)



[www.zweigrad.de](http://www.zweigrad.de)



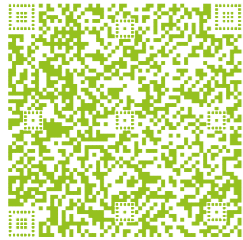
## CONTACT

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Our highly motivated team is fully dedicated to customer satisfaction. For more information, feel free to contact us at the address below or call or write us.

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■ EN 9100

■ EN 9120