

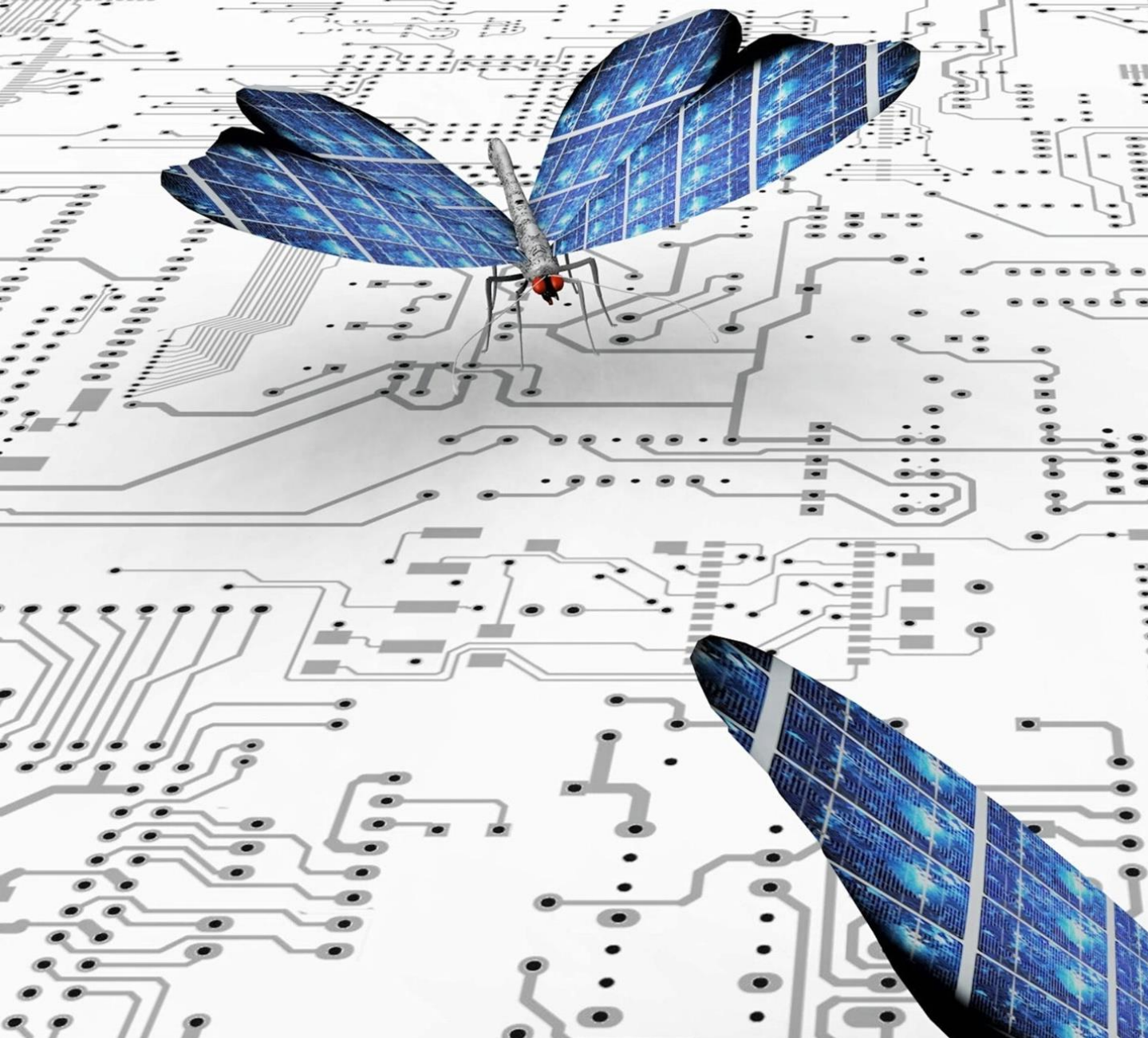
A dragonfly is positioned in the upper left quadrant, with its wings replaced by blue solar panels. The background is a detailed white circuit board pattern. In the lower right, a large, curved solar panel structure is visible, also with a blue grid pattern.

**Your challenge, our project**  
Logistics solutions for the semicon/solar industry

Schenker AG



Click here to  
discover the  
possibilities



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# DB Schenker Logistics Solutions

DB Schenker represents the combination of performance, service and quality, regardless of the complexity or scope of logistics tasks and requirements.

As an integrated logistics service provider, DB Schenker operates and shapes the transportation network of the future, including, Land Transport as well as Air Freight, Ocean Freight and Contract Logistics. DB Schenker supports your industry and your suppliers to establish most efficient logistics across the world and for all your products.



## Best performance for your business

Efficiency and high standards are the key to your success and ours. At DB Schenker, we have the expertise to manage your logistics and transport needs, all from one place. Whatever the size of your business, and however complex your operations, we'll take care of your logistics.

We handle goods in end-to-end supply chains and offer our customers innovative and cost efficient transport and logistics solutions of high quality and from one source.

Furthermore, we are constantly enhancing our logistics.




## We are within the Top 5 across all products:

**No. 1** in Europe in Land Transport Shipments (in millions): 99.7

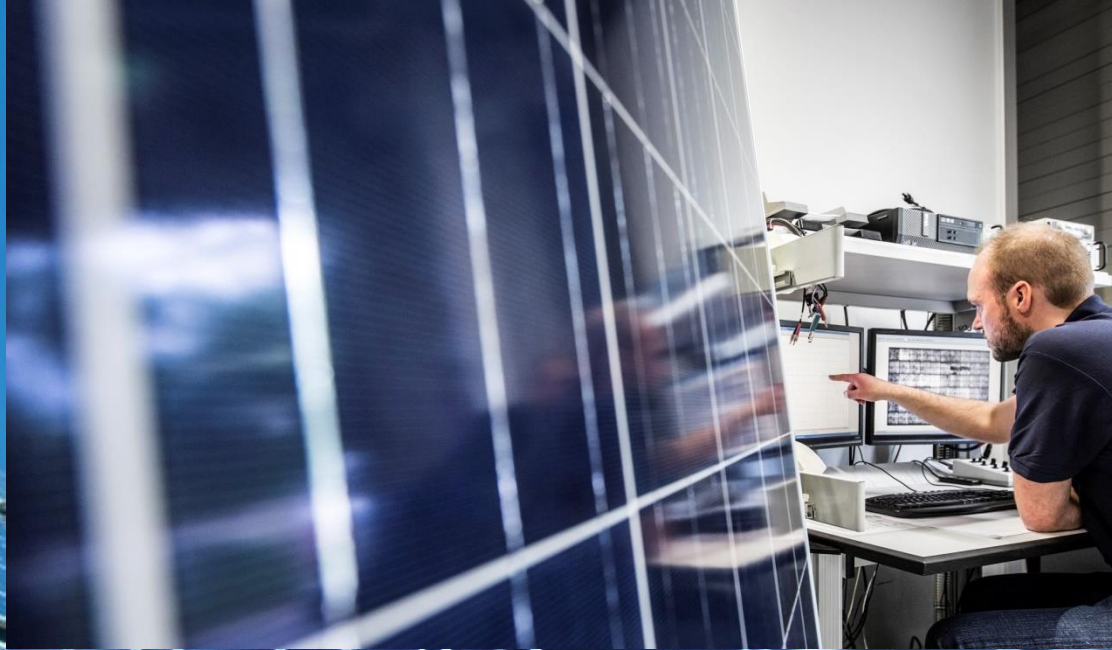
**No. 3** worldwide in Air Freight Air freight volume (in millions tons): 1.2

**No. 3** worldwide in Ocean Freight Ocean freight volume (in millions): 2.0 TEU

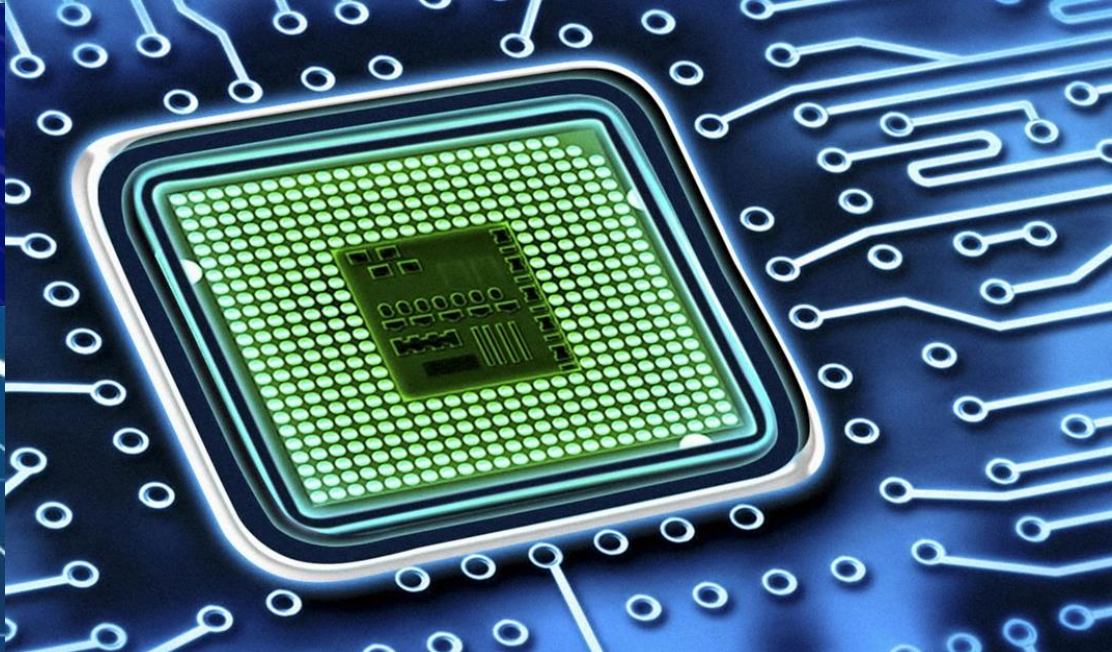
**No. 5** worldwide in Contract Logistics Storage areas (in million): 8.0 m<sup>2</sup>

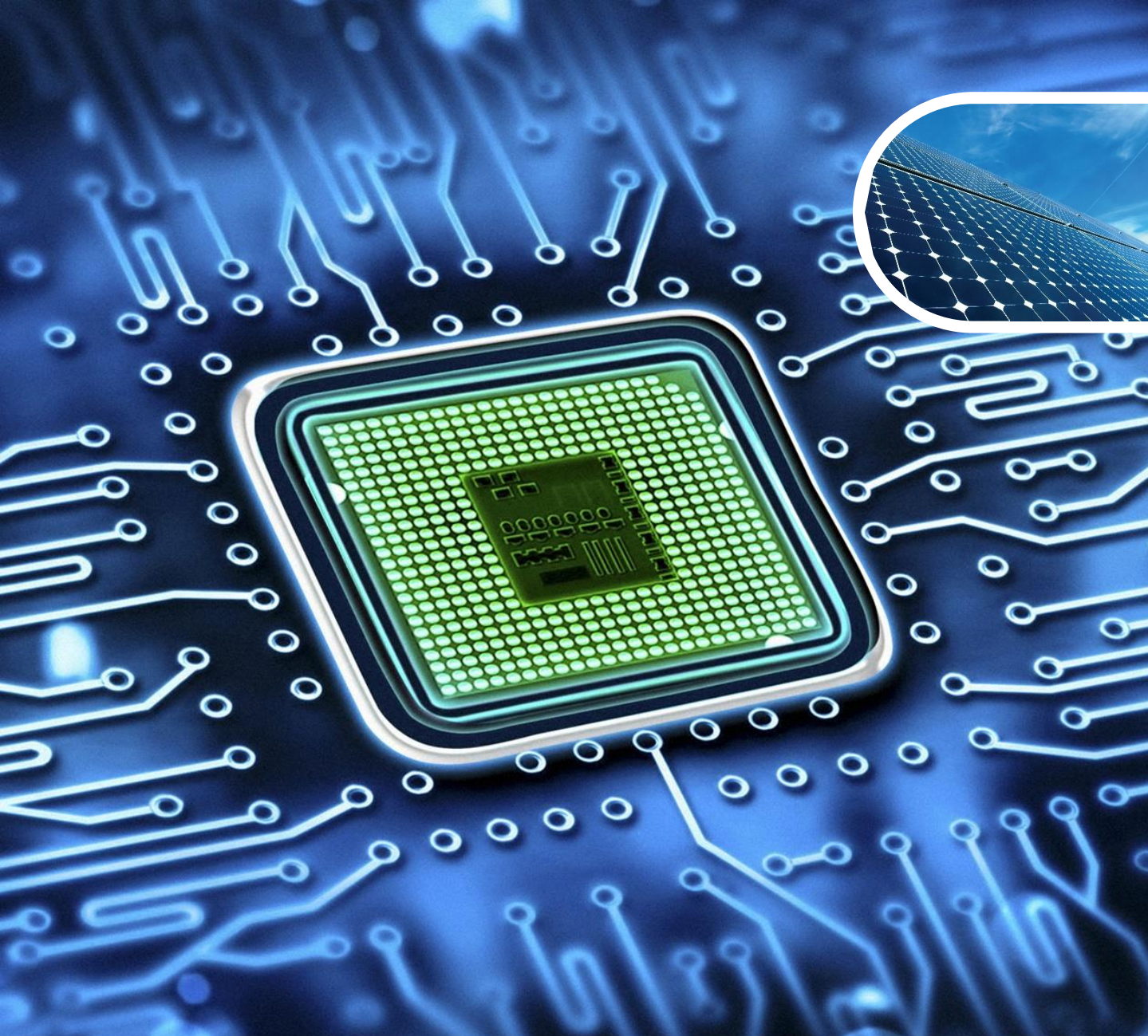
 **DB SCHENKER**  
Click here to discover more

Source: Annual Report Deutsche Bahn AG 2017



# Your Benefits





## Over 20 years experience of the Semicon/Solar Industry

For refined semicon and solar logistics you need a reliable infrastructure.

DB Schenker, as one of the leading international providers of integrated logistics services, offers multi-faceted support to both industries: Global transports, supply-, warehousing- and distribution concepts as well as comprehensive logistics solutions and value added services.



## A worldwide supply chain – tailored to every customer’s needs

Our core competence are global freight transportation as well as logistics services covering every aspect of the production process. DB Schenker supports the entire value chain with integrated supply chain logistics solutions, from vendor, to customer delivery, to reverse logistics and aftermarket support.

We have the expertise – and the passion – to make your supply chain simply perform better. With the worldwide network of 2,000 branches and facilities DB Schenker connects all important and emerging global economic regions. Furthermore, DB Schenker offers logistics solutions tailor-made to the requirements of the semicon and solar industry segments, providing sustainable efficiency and high standard security for the supply chain.





## Knowledge of Market

**The high tech expertise of DB Schenker is built on reliable logistics capabilities dedicated to the semicon and solar industry and its grown long-term partnerships.**

The gained know-how of high tech technologies and special requirements as well as the logistics competence of a global market leader enables flexible logistics concepts to connect companies and markets:

Collaboration between manufacturers, suppliers, their customers and integrated logistics service providers generates innovative solutions for sustained success.



# Equipment Logistics



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## Tailor-made solutions for Equipment Logistics

DB Schenker delivers capital equipment everywhere in the world. Irrespective of size or complexity. We organize the complete range of logistics services related to our customers' production sites – from supply chain management to sequenced component delivery on the production line to assembly work or spare parts supply.

Our employees have the know-how and industry expertise to respond professionally to customer needs and local specifics. Our logistics services are aligned with the semicon and solar industry requirements: We operate the transport of single machines up to total turn-key solutions including necessary project management on proven expertise.



## Rigging and Move-in/ out Utilities

DB Schenker provides temperature controlled trailers with logging devices and GPS tracking equipment. Further, retractable and scissor roller bed platforms are available for loading and unloading entire aircraft pallets on site worldwide.

In addition, special handling equipment, like air ride trucks and air cushion racks can be deployed for moving/relocating machines in cleanrooms.



## Equipment Transport

In equipment transport, supervision is mandatory. DB Schenker executes supervision at defined service-/check points according to customized security specifications and respective documentation.

DB Schenker also provides appropriate loading unloading and transport equipment, e.g. air-ride and temperature controlled trucks, heavy lifts.

DB Schenker delivers and if requested consolidate equipment shipments from multiple suppliers to the final consignee.



## Experienced personnel and dedicated partners

DB Schenker has the know-how of technology and production environment: Technical move-in staff is available for worldwide deployment.

Our global equipment competence centers are located in:

- Dresden, Germany
- San Francisco, USA
- Shanghai, China



## Packing/Unpacking and Crating/Uncrating

DB Schenker has a dedicated knowledge in handling of sensitive high tech technology, usage of adequate packaging according to customer requirements.



**DB SCHENKEReuropack**

Click here to discover more about Packaging



## **Turn-key solutions** From “prior to project consultation” up to “ready to hook up”

Project oriented logistics services and supervision for build-up and positioning of all necessary machines and components for production technologies.





# Spare Parts Logistics





## Solutions for Spare Parts Logistics

**We never fail to come up with a value-for-money solution for our customers. Whatever transportation or logistics services they require, DB Schenker offers a tailored, one-stop service.**

For global availability of spare parts, we provide our customers storage of different spare parts worldwide. Supply management is synchronized with our customers' production runs and the logistics service for spare parts follows different urgency levels according to customers' needs. We can do this, because our company offers the full range of logistics skills and transportation modes. One of our specialties is the coordination of integrated transportation services: Meaning we always have an efficient solution on hand.



## Warehousing

DB Schenker has a global warehouse network of shared and dedicated facilities all equipped with a warehouse management system with related IT-infrastructure and -set up to provide efficient services.



## Transport and Distribution

For distribution from the warehouse to the consignee DB Schenker adopted three service standards from the semicon/solar industry:

**Standard:** Replenishment shipments for depots/ warehouses or deliveries to final consignee.

**Priority:** Delivery within 24/48 hours.

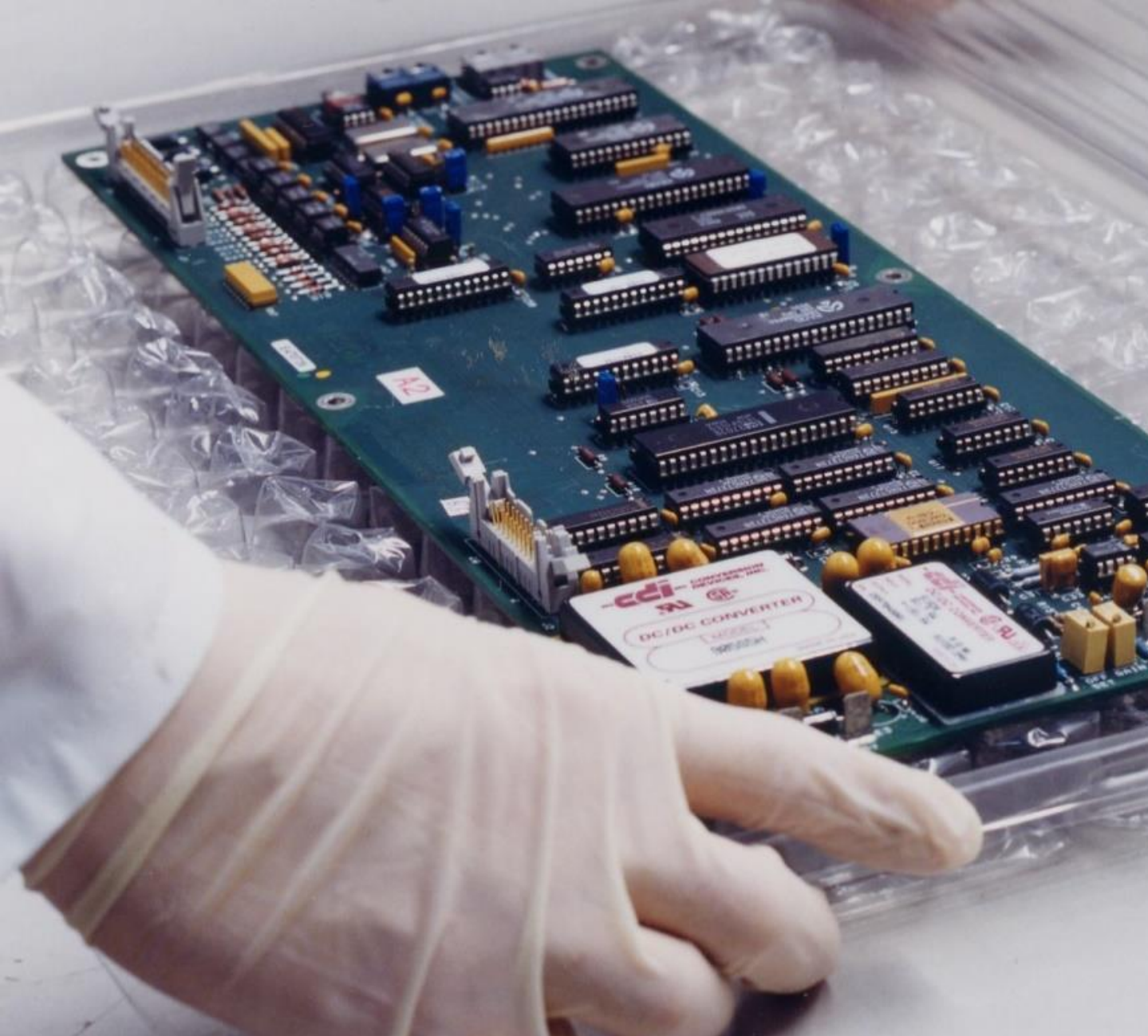
**Machine Down/EMO:** Emergency delivery e.g. production shutdown.

In addition DB Schenker provides customs clearance, scrapping, waste management and management of empties.



# Fab Support & In-house Logistics





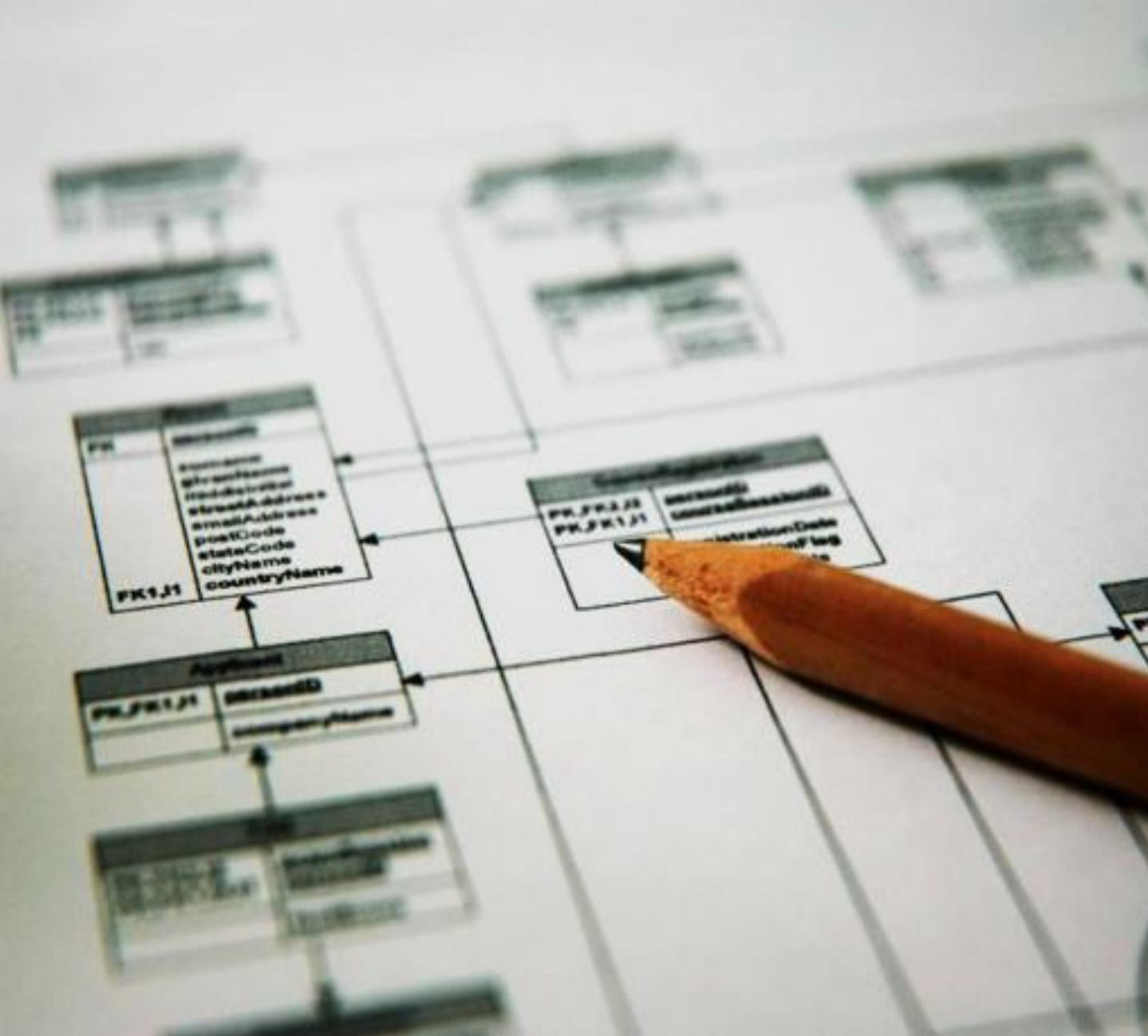
## Fab Support & In-House Logistics

DB Schenker provides logistics services for the entire supply chain and tailored-made solutions for our customers: Good receiving, shipping and inventory management (VMI), dangerous goods handling, JIT delivery aligned to our customers production schedule, packing/unpacking/repacking, kitting/assembling and spare parts supply as well as reverse logistics management. Further 24/7 fab support, customs clearance and waste management. Further services we provide are: Quality testing and on-site project management & claim handling.



# Project Management





## Project Management

**The core business is to offer customized transport and logistics solutions based on the specific needs of each customer in the Semicon/Solar market. Operating and developing customer relationships from three parallel perspectives:**

Strategic (playing an active part in the long-term development and design of a customer's complete supply chain structure), tactical (implementing the most suitable network solution will & use the most advantageous transport route at any given time) and operational (supervising the daily transport movements. Carries out additional service and information exchange with all parties involved, backwards and forwards in the supply chain).





## DB Schenker offers a variety of services in project management

- Project and supply chain planning
- Project management & support
- Solar park construction
- Coordination of technicians
- Order follow-up
- Documentation and contingency planning
- Fab set up and relocation
- Turn key solution



## Coordination/ Contingency Planning

- Set up of designated team with training on SOP
- Work force planning based on technical requirements
- Assignment planning with customer & OEM engineers
- Deployment of technicians with long-term industry experiences
- Risk assessment
- Evaluation of backup plans (Plan B)
- Developing and communicating contingency plans
- Updating project plan on a regular basis



## Planning & Order Follow-up

- Project definition (target, project team & plan)
- Definition of roles & responsibilities
- Consulting on cost calculation
- Develop contingency plan
- Communication with all involved parties
- Selection of appropriate transport mode & service level
- Transport capacity planning & booking
- Real time reporting
- Customs clearance arrangements



## Turn-key Solutions/ Documentation

- Coordination of global warehouse & transport logistics
- Interim storage possibilities
- Deliveries of equipment from multiple suppliers
- Move-in & rigging with special tools
- “Just in Time” delivery aligned to project plan
- Immediate supply and replenishment of spare parts
- Develop and provide project plan, SOP’s working schedules, equipment job sheets
- Quality and KPI reports
- Government applications



# Quality Testing





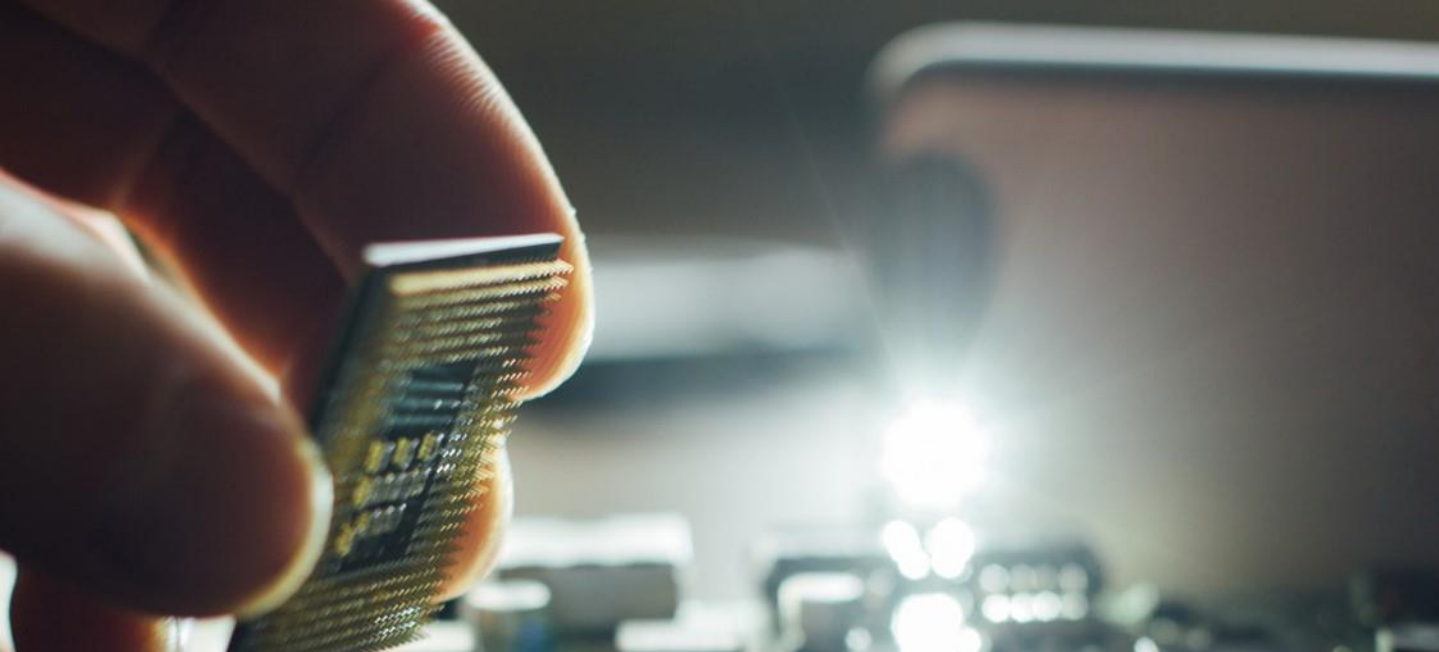
## Quality Insurance for global PV Module Transport

DB SCHENKER *pvchain* offers the seamless integration of optimized quality testing throughout the customer's entire supply chain on a worldwide level.

Our cooperation with the leading test lab, TÜV Rheinland, enables us to effectively detect quality issues. The integration of the quality review process into the supply chain allows us to respond to customer needs promptly and accordingly send alerts when quality deviations are detected. The new monitoring and control system increases the transparency along the transport of solar modules from factory to final delivery. It systematically detects and records damages of the modules.

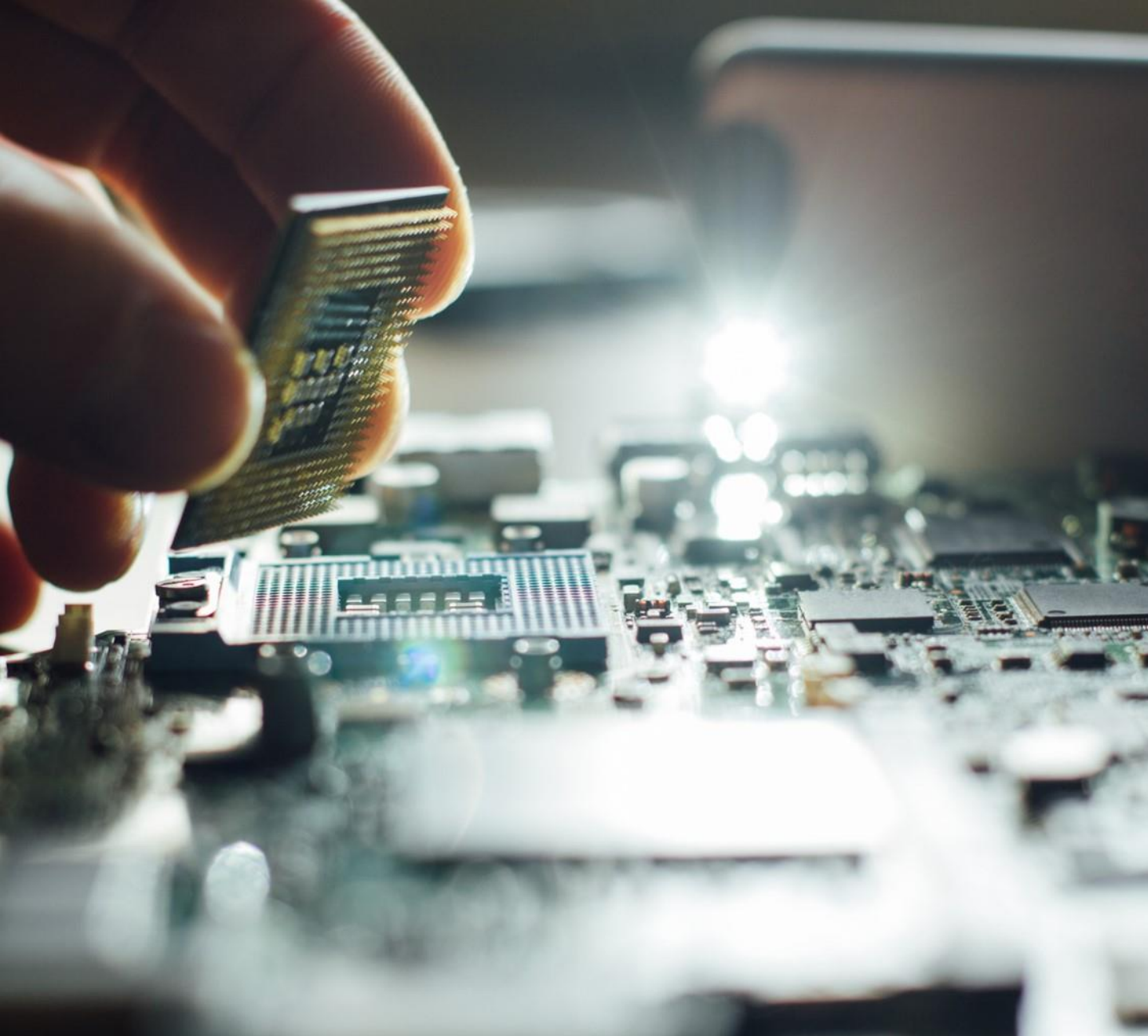


**DB SCHENKER *pvchain* Video**



# Value Added Services





## Value Added Services

The benefits for our customers are obvious: We are ensuring flexibility in our customer's entire supply chain by a comprehensive range of additional services. Our customer can focus on its core competence and business. We support our customer's in optimize their quality and productivity level. Our integrated logistics performance leads to our customers satisfaction.





## Tactical Purchasing & Backlog Management

- Global/regional purchasing
- Optimized vendor purchasing on demand to reduce transit times and costs
- Management of stock levels
- Entire purchase ordering process on behalf of our customer
- Pro-active management of purchase orders
- Trouble shooting in case of irregularities
- Optimized spare parts management
- Control of stock levels on a global/regional base



## Consulting

- Dangerous goods/hazardous material handling
- Customs & governmental regulations
- Packaging & order picking
- Warehousing
- OT-solutions
- Quality management
- Supply chain & process optimization
- Simulation of transport flows
- Security concepts
- Control tower



## Call Center

- 24/7 service
- Order follow-up
- Global & regional purchase order management
- Central contact point for service engineers and clients
- Global & regional inventory management
- Administration services
- Well trained DB Schenker personnel with industry know-how

# Any questions or concerns? Contact your service team

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