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# Managing nature and climate-based risks

From present exposure to future losses quantification  
From measurements to adaptation plan

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# Sustainable Investments Require an Understanding of Future Heat Waves



How vulnerable are HVAC systems in a real estate portfolio to extended periods of heat waves?



## Responsible Asset Allocation Requires Understanding of Nature Risk



Do you know how  
availability of water in  
the future will impact  
the business?

## Creating a Resilient Supply Chain in Present and Future Climate



Do you know where  
your line risk supply  
chain is exposed to  
flooding?



RDS is a SaaS platform that allows to assess exposure and vulnerability of real assets under **different climate scenario**.

With RDS you can **take control** of your climate and nature risks for a sustainable business performance



# RDS offers global risk assessment of real assets

RDS specifically takes into account different types of real assets



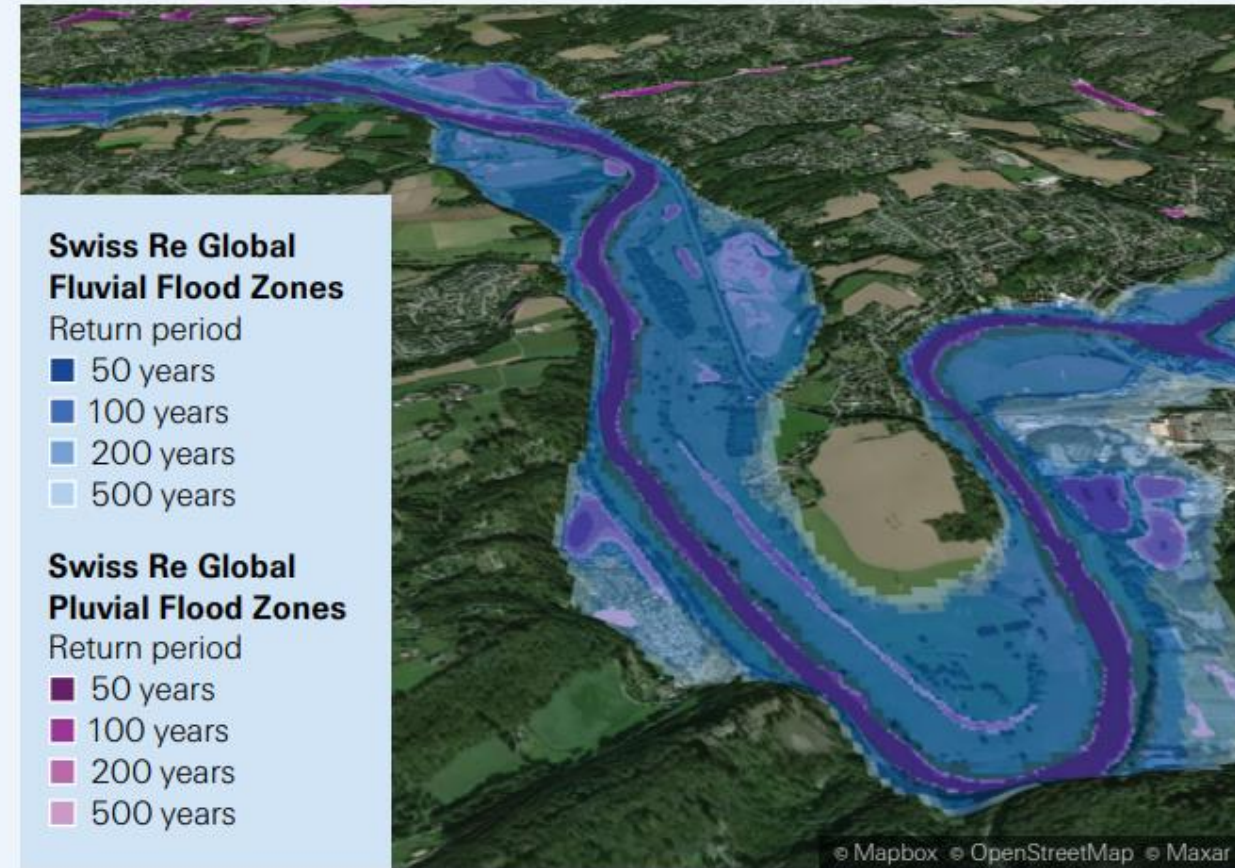
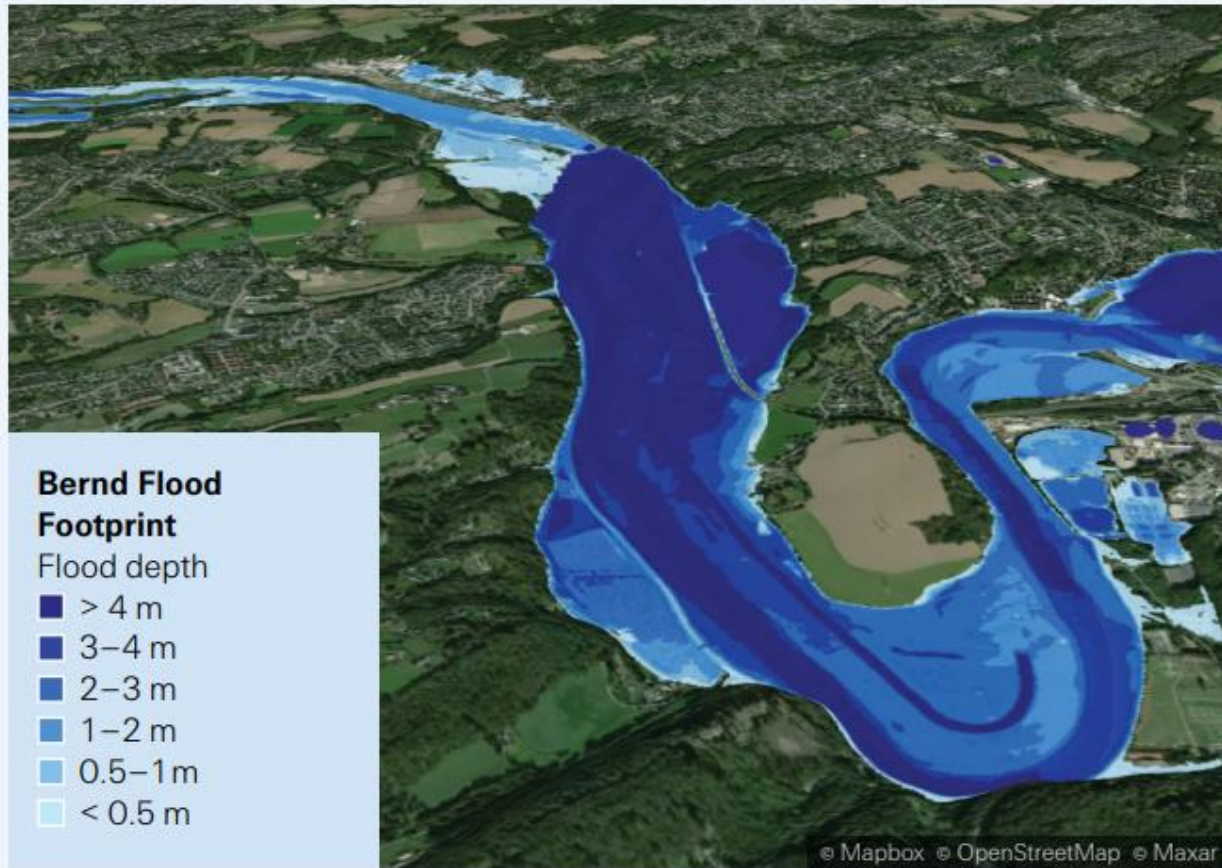
- Modelled as a point (long/lat) or as a polygon
- Primary and secondary description of the asset
- Ability to link associated key infrastructures



Present Exposure Natural Catastrophes	Biodiversity & Ecosystems Services 1-km resolution covering all terrestrial ecosystems globally	Future climate models at 50-km resolution* <i>*To be downscaled to 30km globally in Q3 2024</i>												
<ul style="list-style-type: none"> <li>• River Flood - 30m resolution (res)</li> <li>• Pluvial Flood - 30m res.</li> <li>• Storm Surge - 30m res.</li> <li>• Windstorm - 5km res.</li> <li>• Wildfire - 300m res.</li> <li>• Hailstorm - 50km res.</li> <li>• Tornado - 50km res.</li> <li>• Lightning - 5 to 50km res.</li> <li>• Landslide - 30m res.</li> <li>• Earthquake - 1km res.</li> <li>• Volcanic Ash Thickness - within 150km around the volcano</li> </ul>	<ul style="list-style-type: none"> <li>• a holistic, comparative view of the state of Biodiversity and Ecosystems Services globally</li> <li>• data from ten different ecosystem services: water security, water quality, timber provision, food provision, habitat intactness, pollination, soil fertility, regulation of air quality &amp; local climate, erosion control and coastal protection</li> <li>• a resolution of 1 square kilometer, covering all terrestrial ecosystems in a global comparison</li> </ul>	<table border="1"> <tr> <td>Fluvial Flood</td> <td>Pluvial Flood</td> <td>Sea Level Rise</td> </tr> <tr> <td>Extreme Rainfall</td> <td>Winter Rainfall</td> <td>Summer Rainfall</td> </tr> <tr> <td>Windstorm</td> <td>Wildfire</td> <td>Drought</td> </tr> <tr> <td>Heat Wave</td> <td>Heat Stress</td> <td>Cold Stress</td> </tr> </table> <p>SSP-1    SSP-2    SSP-5</p>	Fluvial Flood	Pluvial Flood	Sea Level Rise	Extreme Rainfall	Winter Rainfall	Summer Rainfall	Windstorm	Wildfire	Drought	Heat Wave	Heat Stress	Cold Stress
Fluvial Flood	Pluvial Flood	Sea Level Rise												
Extreme Rainfall	Winter Rainfall	Summer Rainfall												
Windstorm	Wildfire	Drought												
Heat Wave	Heat Stress	Cold Stress												
<p align="center"><b>Present risks</b> NatCat Risks – Nature impact / dependency Annual Expected Loss</p>		<p align="center"><b>Future risks</b> Climate Risk Score CC Risk Quantification</p>												

Assessments available at single location or at portfolio level

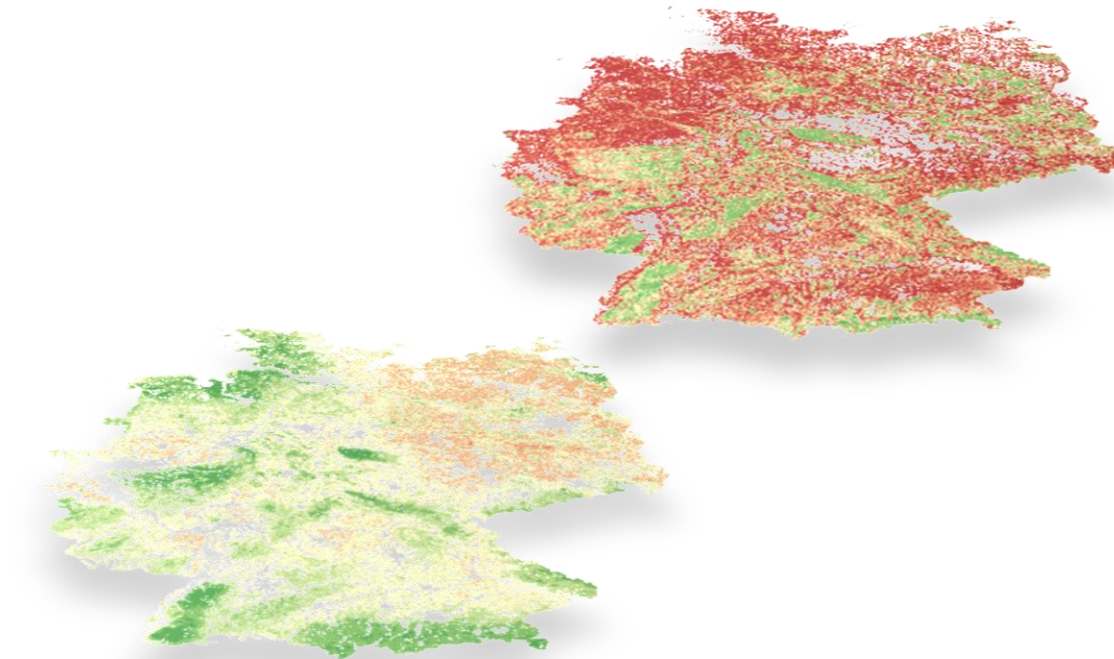
## Example – Swiss Re’s high-definition present food risk model



“Bernd”, 2021, Flood event in Germany. Event footprint based on satellite imagery (left), compared with Swiss Re’s Global Flood Zones, (right) in the region of Hattingen, Germany



## Example - Water Security and Water Quality



Biodiversity & Ecosystem Services (BES) Index

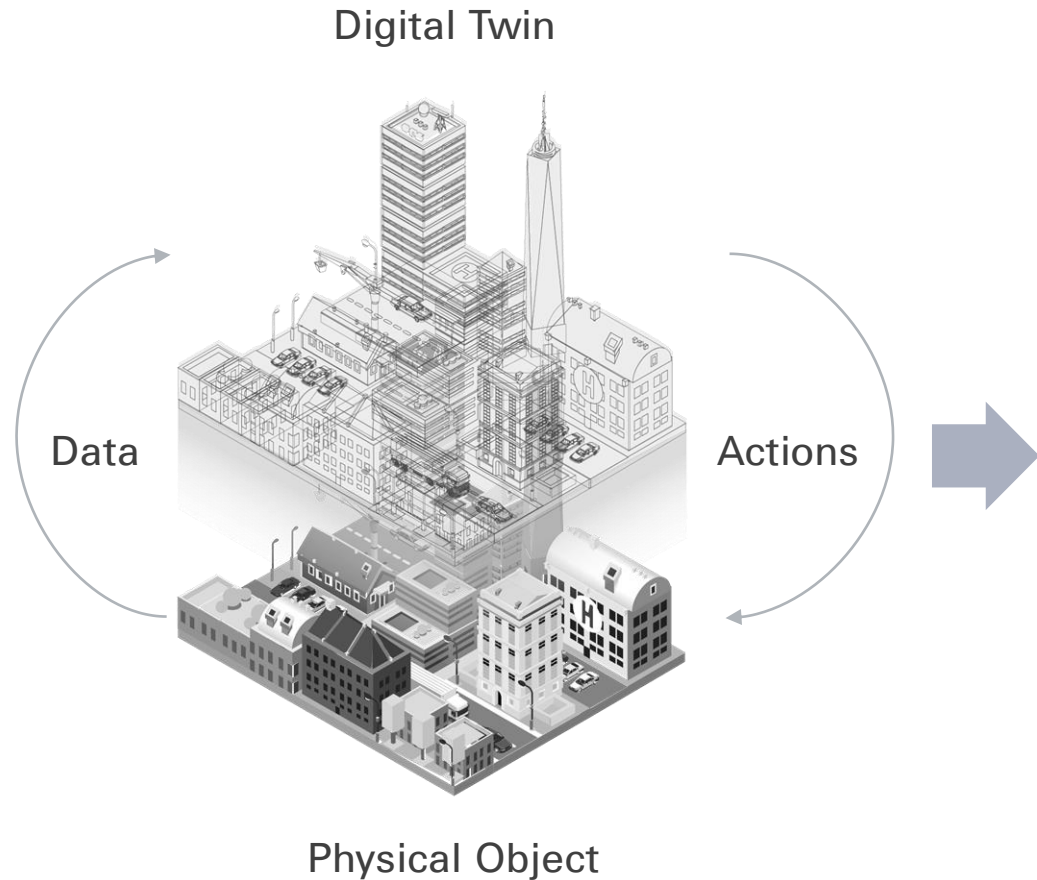


**04 Water Security** Ratio of water withdrawals to available renewable surface and groundwater at catchment scale

**05 Water Quality** Contribution of terrestrial ecosystems in regulating water quality by retaining nitrogen and reducing the level of pollution

**In total 10 ecosystem services** identified that are relevant regarding the dependency of economic activities, focusing on terrestrial ecosystems

# RDS offers global risk assessment of real assets



## A Digital Twin...



**Swiss Re's and third party's risk Insights**



**All data resides in a secure private space**



**Private tenant – role management**



**Automated and customized report**



**Data download**

How it works...



# Digital Twin – Polygons and Linie Risks

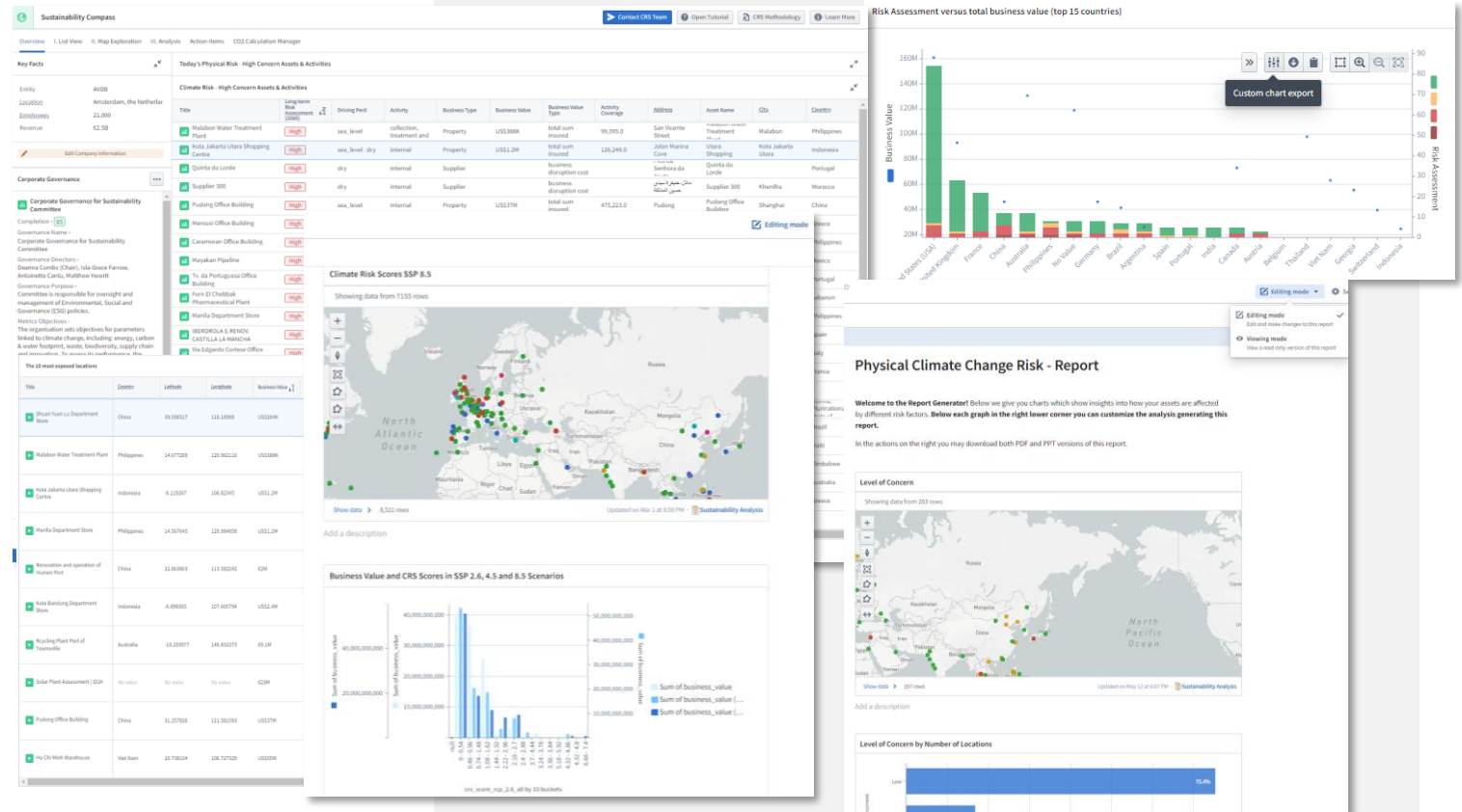


Quelle: RDS

# Insights supporting your reporting

- ✓ Leverage RDS key outputs to inform your materiality assessment
- ✓ Formulate mitigation and adaptation measures to be prepared for different climate future scenarios
- ✓ Build resilience by considering future uncertainties and possibilities
- ✓ Value at risk calculations for TCFD reporting
- ✓ Conduct Climate Risk & Vulnerability Assessment (DNSH Climate Adaptation – EU Taxonomy)
- ✓ Inform Capital expenditures (CapEx) calculations
- ✓ Assess dependency and impact for 10 components of nature-based risks under Swiss Re's BES index

## Output Example



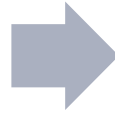
Please note data on screenshots is purely illustrative and specifically created for demo purposes.



## Conclusion

### RDS provides:

- SaaS platform
- High-definition, geo-spatial Digital Twin
- Risk insights
- Comprehensive reporting



### You get:

- Financial Risk Quantification for a sustainable business
- Reliability
- Transparency and
- Global coverage

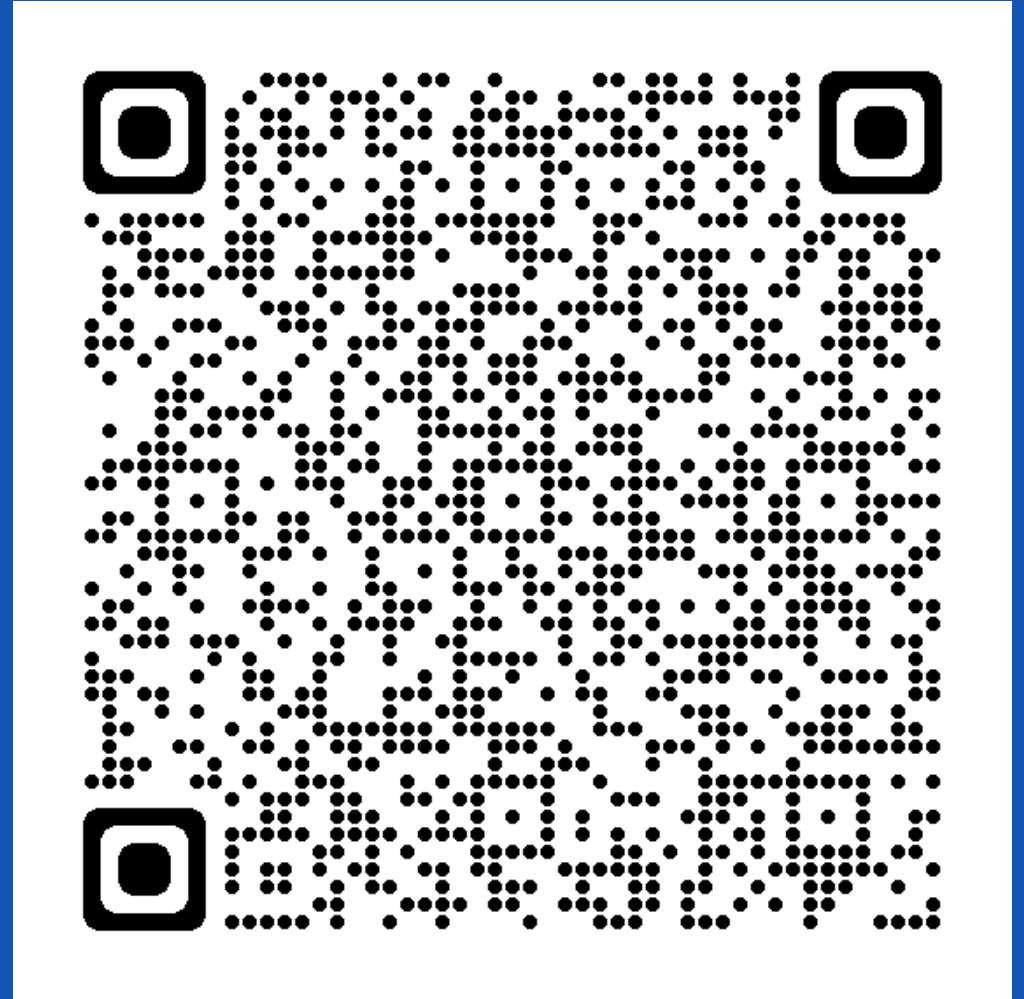
# Thank you

## Scan me to request a demo

Contact us



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