Real I.S. Group – Hamburg

Case Study ESG

Physical risk assessment of an office building with high exposure to water risk

PROJECT:
Physical climate risk assessment

COMPANY:
Real I.S. Group

LOCATION
Hamburg, Germany

Challenge

The office property in Hamburg is located directly on the Elbe River within the harbour area. Due to its riverside location, the asset faces an increased risk of sea level rise. In the event of flooding, adjacent buildings could become unusable, thereby increasing the risk of loss of rent and jeopardising the property's value.

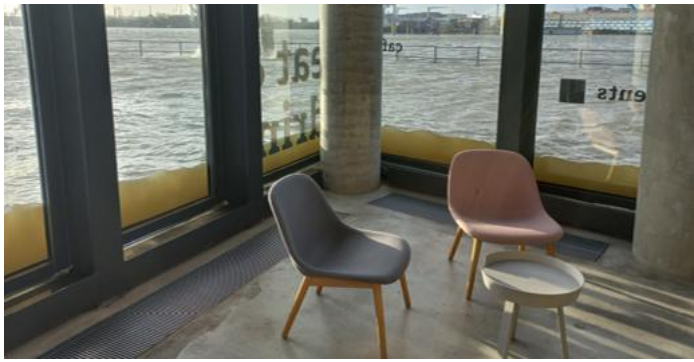
The aim of the project was to accurately assess the physical risk exposure of the asset, considering the property's individual characteristics and its specific vulnerability or resilience.

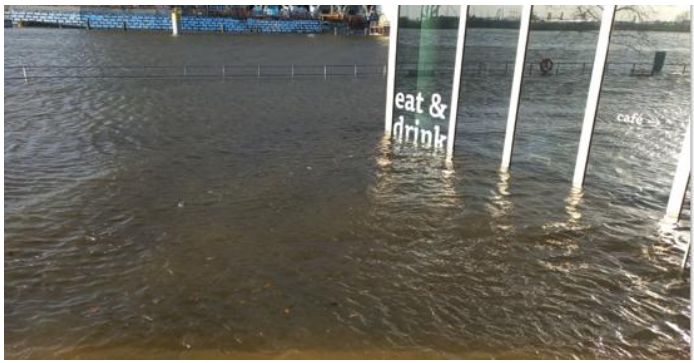
Solution / Approach

The first step involved conducting a location-based risk assessment using MunichRe's "Location Risk Intelligence" tool. This assessment analyses both historical data, based on observations of past events, and projected future climate risks under different climate change scenarios.

Subsequently, the technical asset manager carried out a detailed vulnerability assessment of the property. This included an evaluation of past damage events, as well as an analysis of how potential physical climate incidents could affect the building's structure, technical systems and usability.

External mitigating factors such as existing flood defences, municipal protection plans, and local infrastructure were also taken into account to form a holistic risk profile.





Results

Thanks to built-in security systems such as dam systems, flood protection doors, water- and pressure-tight windows, and flood pumps, the individual vulnerability of was rated as very good, thereby demonstrating a very low vulnerability to physical damage.

By considering the individual vulnerability of buildings in high-risk locations, it was possible to show that some of the properties are resilient to the physical risk that is particularly pronounced at the location.

Outcome

The Location Risk Intelligence tool from MunichRe assesses physical climate risks at specific locations, both historically and under future climate scenarios. Each individual risk is rated on a five-point scale.

Building upon this, the Real I.S. "Physical Risk Scoring Model" aggregates the individual assessments into an overall physical risk rating (from very low to very high). Properties with one or more high-risk indicators undergo an additional vulnerability analysis.

This second layer of assessment determines the building's specific resilience and the potential effectiveness of adaptation measures. Working with technical experts, Real I.S. developed a standardised individual vulnerability analysis covering:

- Query on the impact of historical flood events;
- Evaluation of three scenarios using a questionnaire;
- Analysis of the impairment or resilience of the following assessment categories:
  - Furnishings;
  - Building structure (damage to walls/floors/roof, etc.);
  - Technical systems;
  - Loss of use.

By systematically combining location-based climate risk data with property-specific resilience assessments, Real I.S. has demonstrated that many assets situated in high-risk areas can nonetheless be considered resilient when robust protection systems are in place.

Real I.S. Group

The Real I.S. Group, a wholly owned subsidiary of BayernLB, is one of the leading German providers of real estate investments for private and institutional investors. Real I.S. Group focuses on environmentally, socially and economically sustainable investments in Germany, Europe and Australia.