

# Seismic retrofitting for hazardous materials storage tanks



**EBP was commissioned by CABB AG to carry out seismic-safety analyses of its steel tanks for hazardous materials, as well as to plan the implementation of any necessary seismic-retrofitting measures in a manner that would not force the company to interrupt its operations.**

CABB AG manufactures source materials and reagents that are widely used in the chemicals industry. The company's largest production facility is located in Pratteln in the Canton of Basel-Country.

## **Testing the structural stability of storage tanks for hazardous materials**

Working on behalf of CABB, EBP carried out a risk assessment in accordance with the Swiss Major Accidents Ordinance in 2015 and submitted the results to the Cantonal Safety Inspection Office. Based on the result, CABB commissioned EBP later in the same year to examine the structural stability of 31 storage tanks at one of the company's main production facilities. The toppling of any of the tanks might have led to the release of large amounts of the stored hazardous materials. These materials might then mix with water and create a toxic cloud of chlorine gas.

## **Meeting all planning challenges**

We then used our results to plan the seismic retrofitting measures and to issue a corresponding call to tender. The planning challenges for us included taking account of the interaction between the steel tanks and their liquid contents,

## Client

CABB AG

## Facts

Period 2016 - 2018

Project Country Switzerland

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and avoiding any damage to existing service lines. In order to meet these challenges, we commissioned a partner company to map the tanks and all service lines via 3D scanning. This enabled our drafting specialists to create helpful cross sections and views.

### **Implementing retrofitting measures without interrupting operations**

One further challenge consisted in carrying out the retrofitting measures during ongoing operations. In light of this challenge, we made sure to confer with selected structural engineers about the project's implementation at an early stage. We then completed the project successively from the middle of 2016 to the beginning of 2018. Throughout the project, we worked closely with our CABB partners, discussing approaches, presenting our finding and drafting the execution plan.