

# EPIC Online Technology Meeting on Optical Fiber Sensing for Monitoring

HBK

Cristina Barbosa  
7<sup>th</sup> November 2022





Merger of two well established companies in  
the measurement world



**2019 | 75 years experience | owned by spectris**

# Global scale. Local presence.



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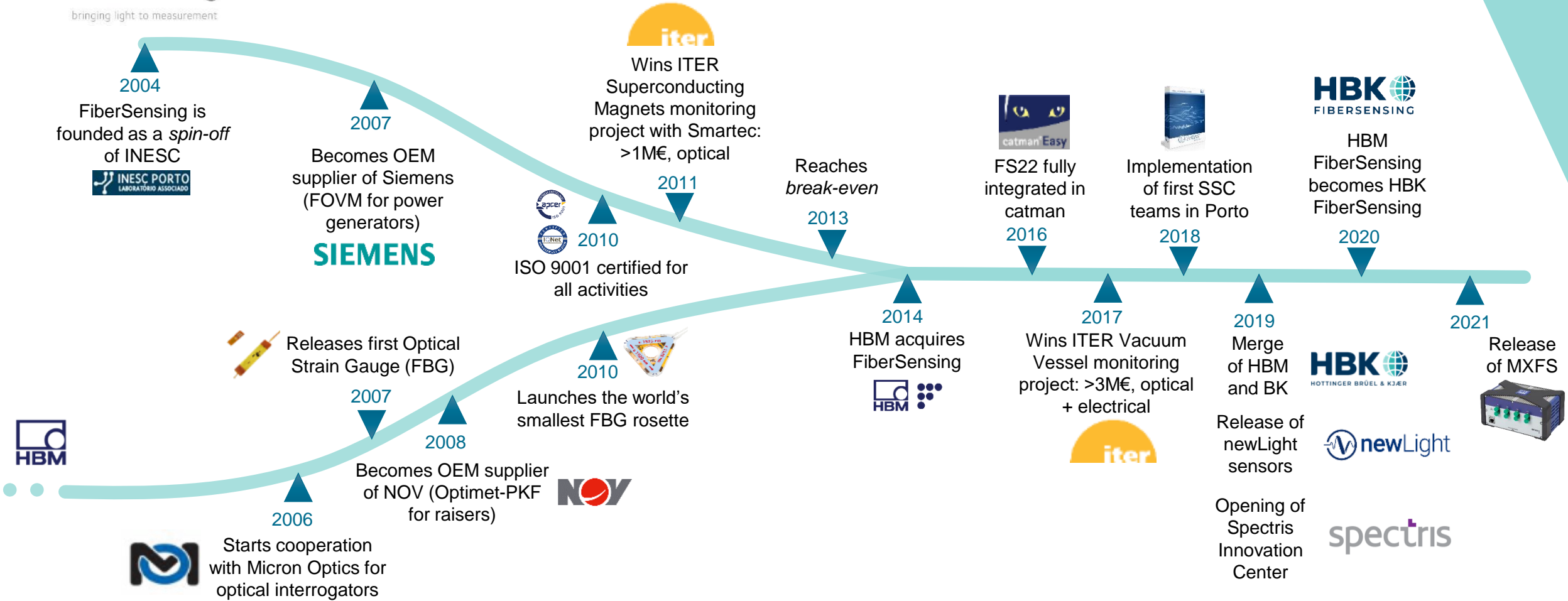


- ▲ HBK office
- ▲ Distributor

# HBK and Optical Sensors

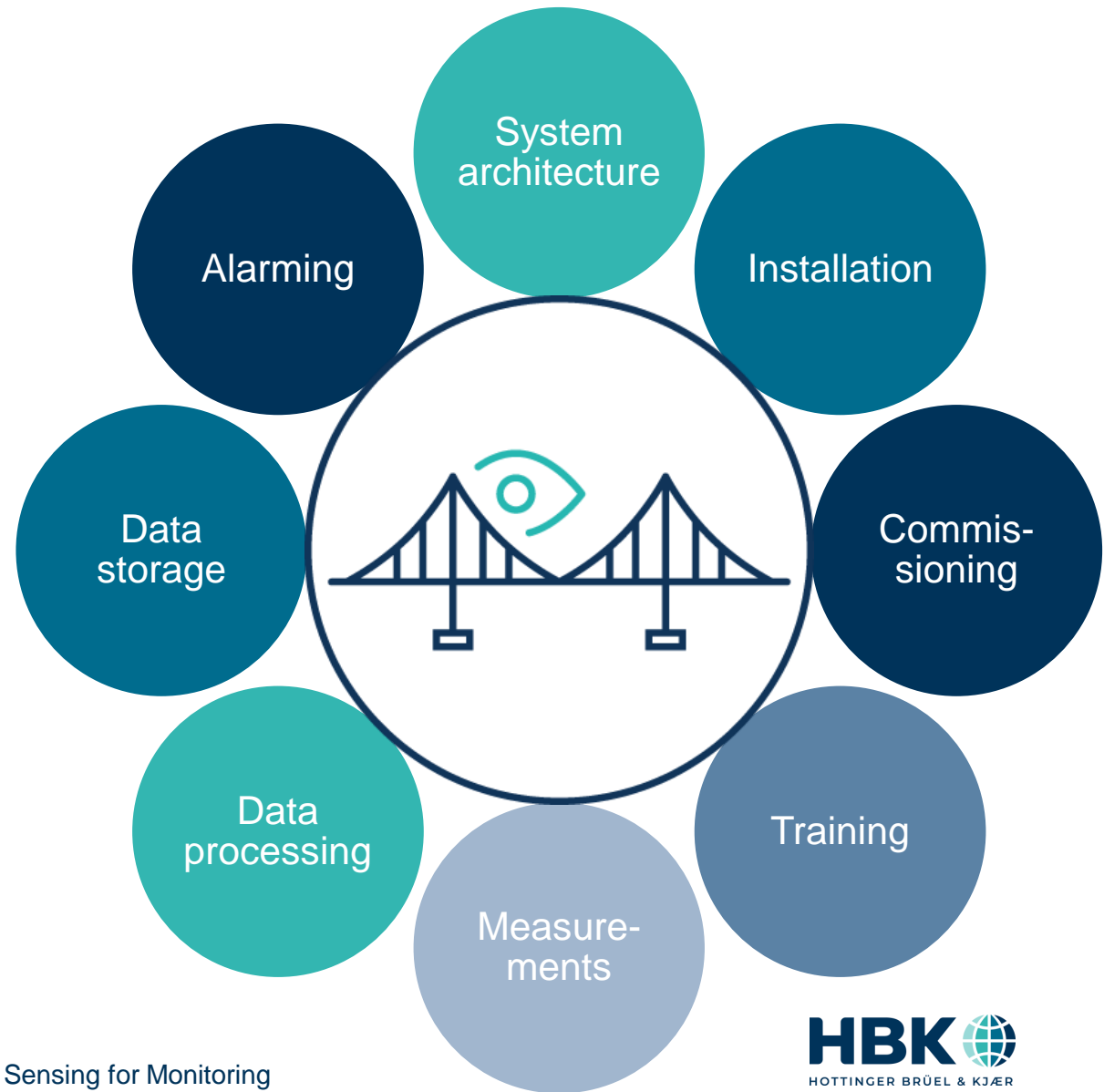
FiberSensing

bringing light to measurement





# Structural Health Monitoring



# Application Stories

## MONITORING OF HERCÍLIO LUZ BRIDGE DURING REABILITATION WORKS

The iconic Hercílio Luz bridge is a centenary bridge that was closed for many years due to safety reasons. It was subjected to complex restoration procedures that required close monitoring of its behavior while important structural elements were being replaced (one year operation).



Hybrid measurement system operating with catman for control and monitoring during rehabilitation.



Florianópolis,  
Brazil



Teixeira Duarte  
SA



2017

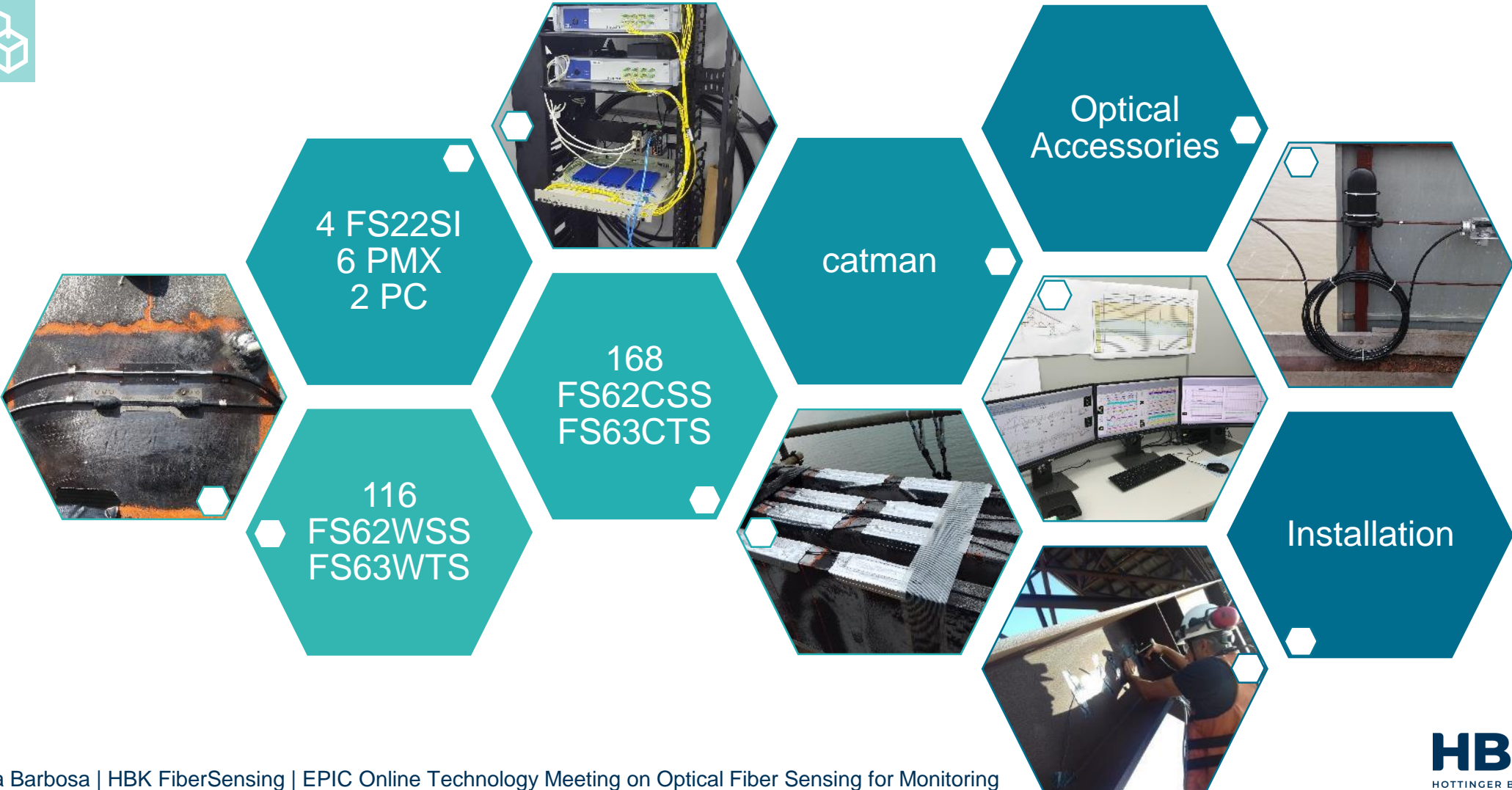


- Long transmission distances
- Delivery of sensors in arrays, reducing installation time
- Hybrid system
- Catman software with specific scripts
- Detailed technical and commercial proposal
- Flexibility and availability to deliver and install in a short notice



# Application Stories

## MONITORING OF HERCÍLIO LUZ BRIDGE DURING REABILITATION WORKS





# Application Stories

## MONITORING PROJECT OF PONTE DELLA COSTITUZIONE

Ponte della Costituzione is one of the four bridges that cross Venice's grand canal. The deployed SHM system is a long-term monitoring system, installed along the structure underside length, that aims to monitor its structural behavior. The installation of the system presented a major challenge since a major part was performed from a technical boat on the Grand canal.



SHM system comprising of several weldable strain and temperature sensors installed on structure's underside paired with accelerometers.



Venice, Italy



INSULA S.p.A.



2021



- HBK offering the full solution (sensors to service)
- System architecture (optical arrays approach)
- Innovative technology
- Local pre-sales support from HBK IT
- Back-up support from HBK FS sales team



# Application Stories

## UNDERGROUND PENSTOCK MONITORING SYSTEM

In the past one of the penstocks of the hydroelectric power plant suffered severe damages. The shutdown of the power plant and the reconstruction of the penstock have a high impact in terms of cost and on peoples' life.



Supply, installation and commissioning of a measurement system based on optical technology in three underground penstocks (slope 15%)



Uganda



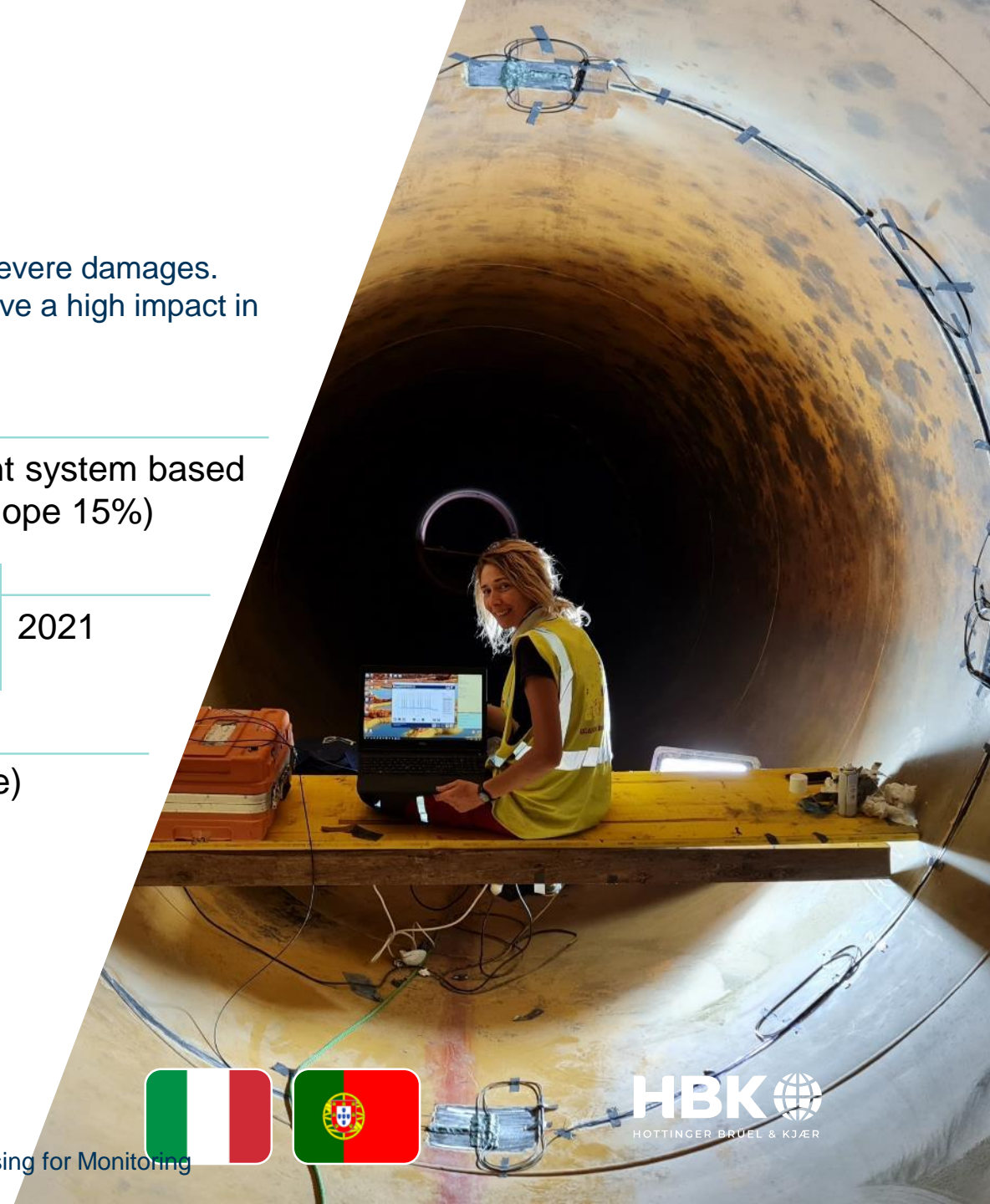
Confidential customer



2021

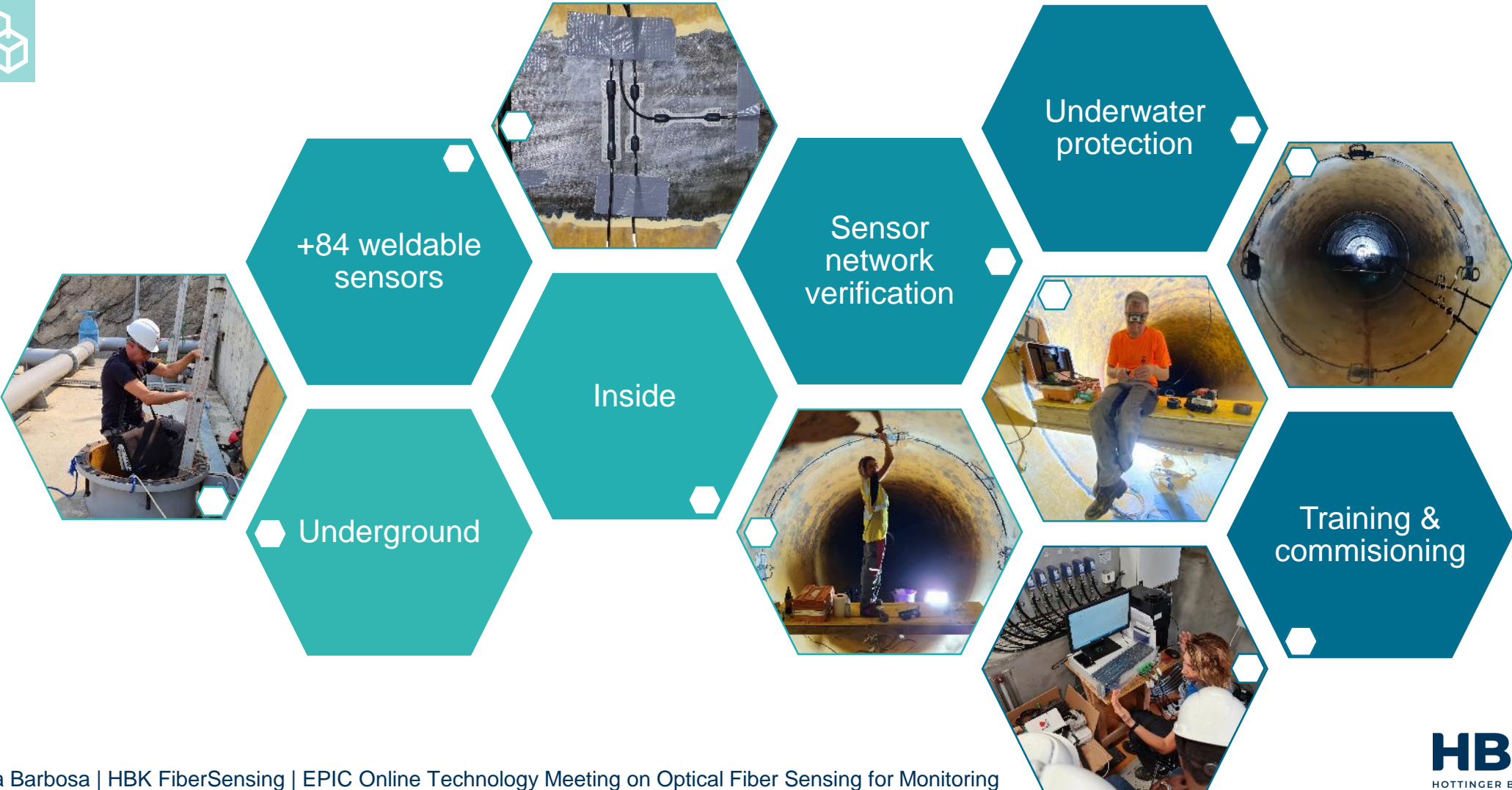


- HBK offering the complete solution (sensor to service)
- Perfect match for optical (long distances and water)
- Pre-sales support in defining the system architecture
- Detailed technical and commercial proposal
- HBK worldwide installation flexibility



# Application Stories

## UNDERGROUND PENSTOCK MONITORING SYSTEM



# Thank You

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