

Oracle Customer Viewpoint—CERN

Exploration in the Cloud

The European Organization for Nuclear Research (CERN) is turning to the cloud to see if its IT infrastructure can become more scalable, secure, and economical to operate.



CERN

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Highlights



Vision



Strategy



Transformation



Technology



ROI



HIGHLIGHTS

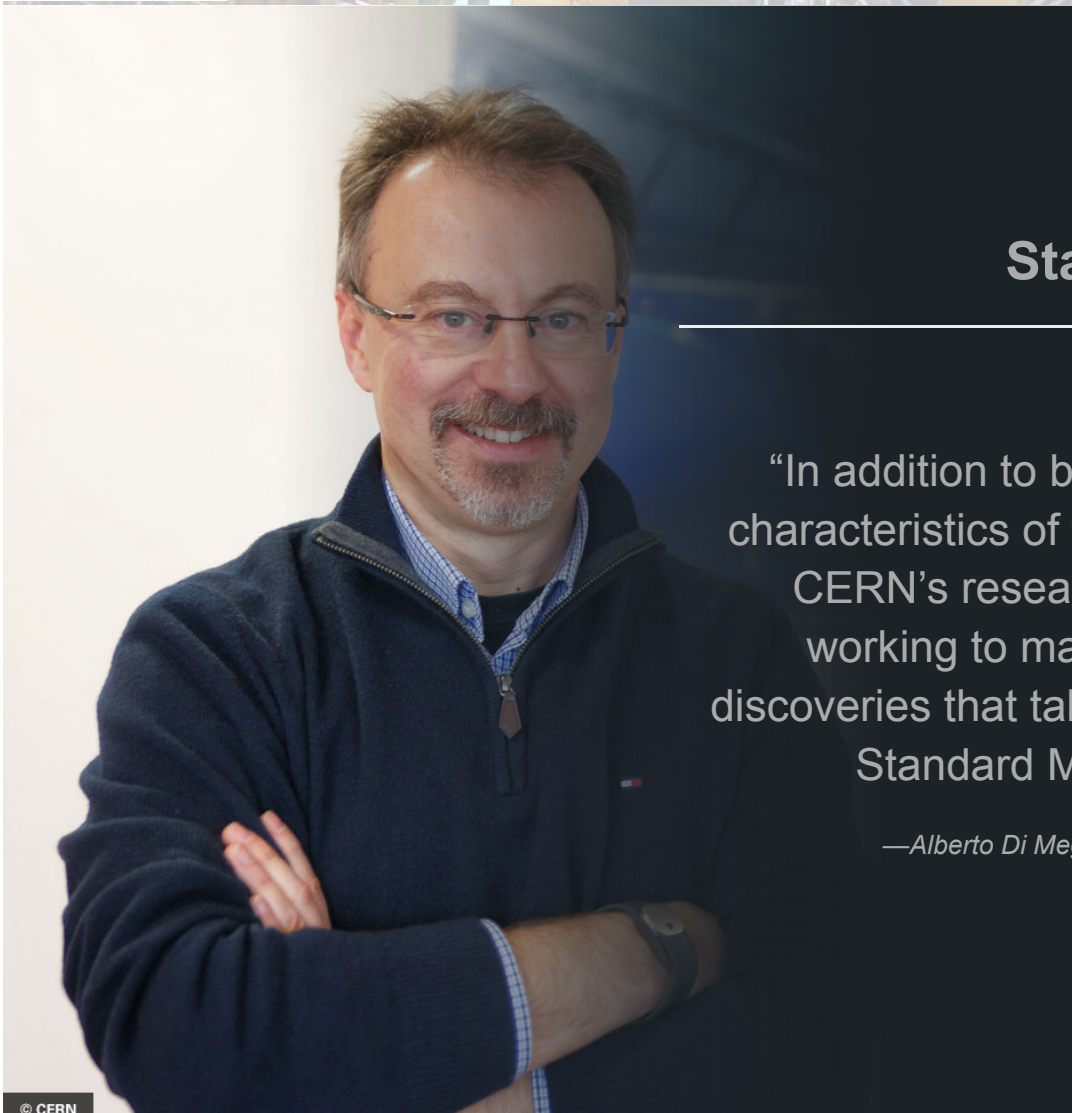
Test Run

Using big data, analytics, and the cloud, CERN is running tests to find out whether its Large Hadron Collider (LHC) and other particle accelerators are operating at their full potential—and, if not, identify what resources are needed so that they can.

Forbes article > Video >



49 petabytes
of data was produced by the LHC experiments in 2016.



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VISION 

Standard Model



“In addition to better defining the characteristics of the Higgs boson, CERN’s research community is working to make new scientific discoveries that take us beyond the Standard Model of physics.”

—Alberto Di Meglio, Head of CERN openlab

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 STRATEGY

Research Infrastructure



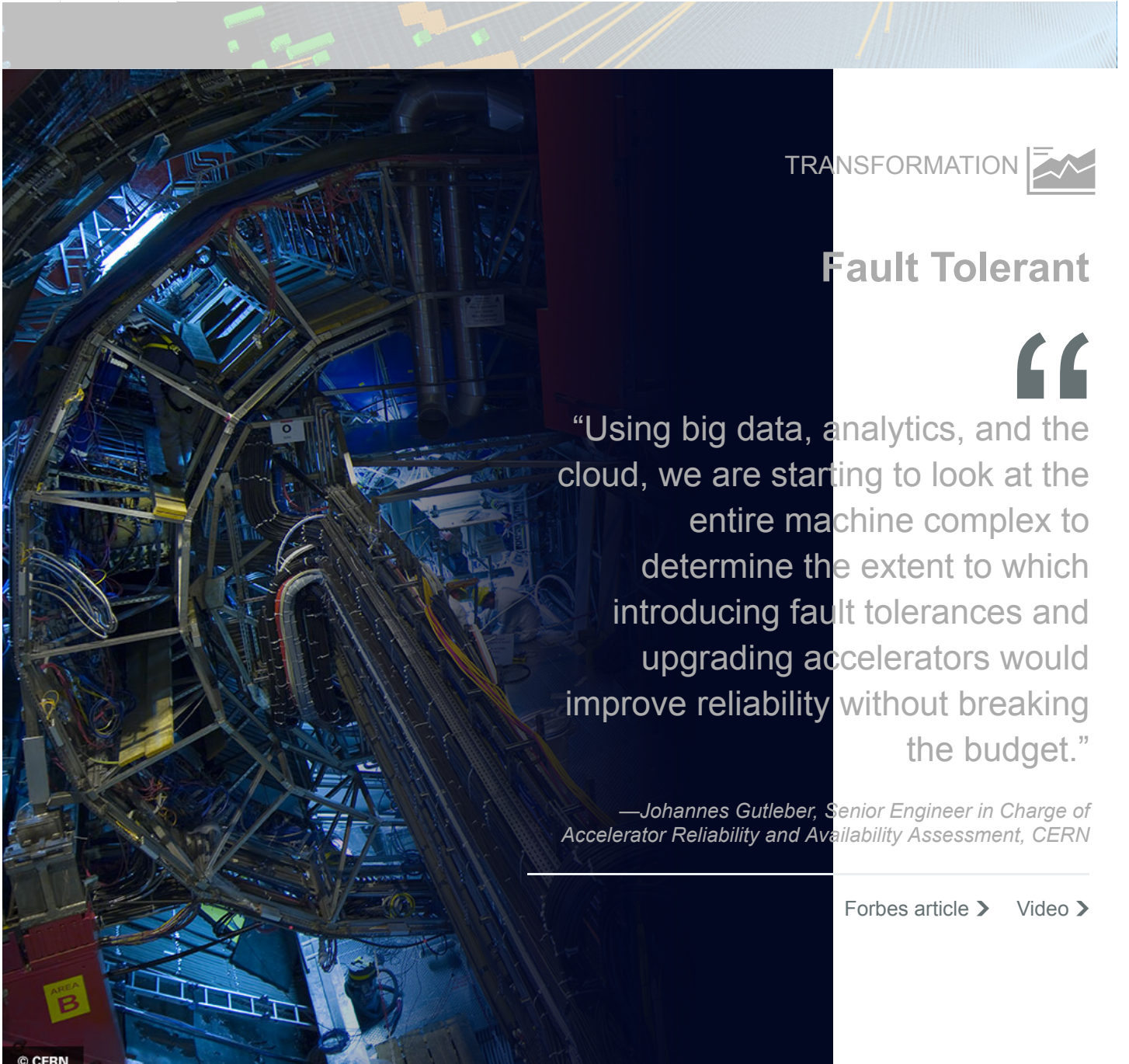
“Over the next 10 to 15 years, we expect the total amount of data produced by the experiments on the LHC to increase significantly—because of this, the cloud is becoming an increasingly important component of CERN’s research infrastructure.”

—Alberto Di Meglio, Head of CERN openlab

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Over 250 petabytes
of disk storage space and over
175,000 computing cores are
provided by CERN’s data centers.



TRANSFORMATION 

Fault Tolerant

“

Using big data, analytics, and the cloud, we are starting to look at the entire machine complex to determine the extent to which introducing fault tolerances and upgrading accelerators would improve reliability without breaking the budget.”

—Johannes Gutleber, Senior Engineer in Charge of Accelerator Reliability and Availability Assessment, CERN

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 TECHNOLOGY

Discovery in the Cloud

“We have been pleased with our initial investigations with Oracle Database Backup Cloud Service and Oracle Java Cloud Service solutions and look forward to continuing our investigations with Oracle Database Cloud.”

—Eric Grancher, Group Leader of Database Services, CERN

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ROI



Disaster Recovery



“While we are just beginning to test disaster recovery in the cloud, we believe it will prove to be a powerful and cost-effective solution for data security and business continuity.”

—Eric Grancher, Group Leader of Database Services, CERN

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50,000 sensors

and other metering devices are used to capture operational data from CERN’s accelerator complex.

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