FIIF Seminar

THE UNDERLYING REALITY OF INDUSTRIAL X REALITIES

Kari Peltola

WAKEONE

Technology company providing cutting-edge
cloud and XR solutions to demanding customers.

Offices in Helsinki and Tampere,
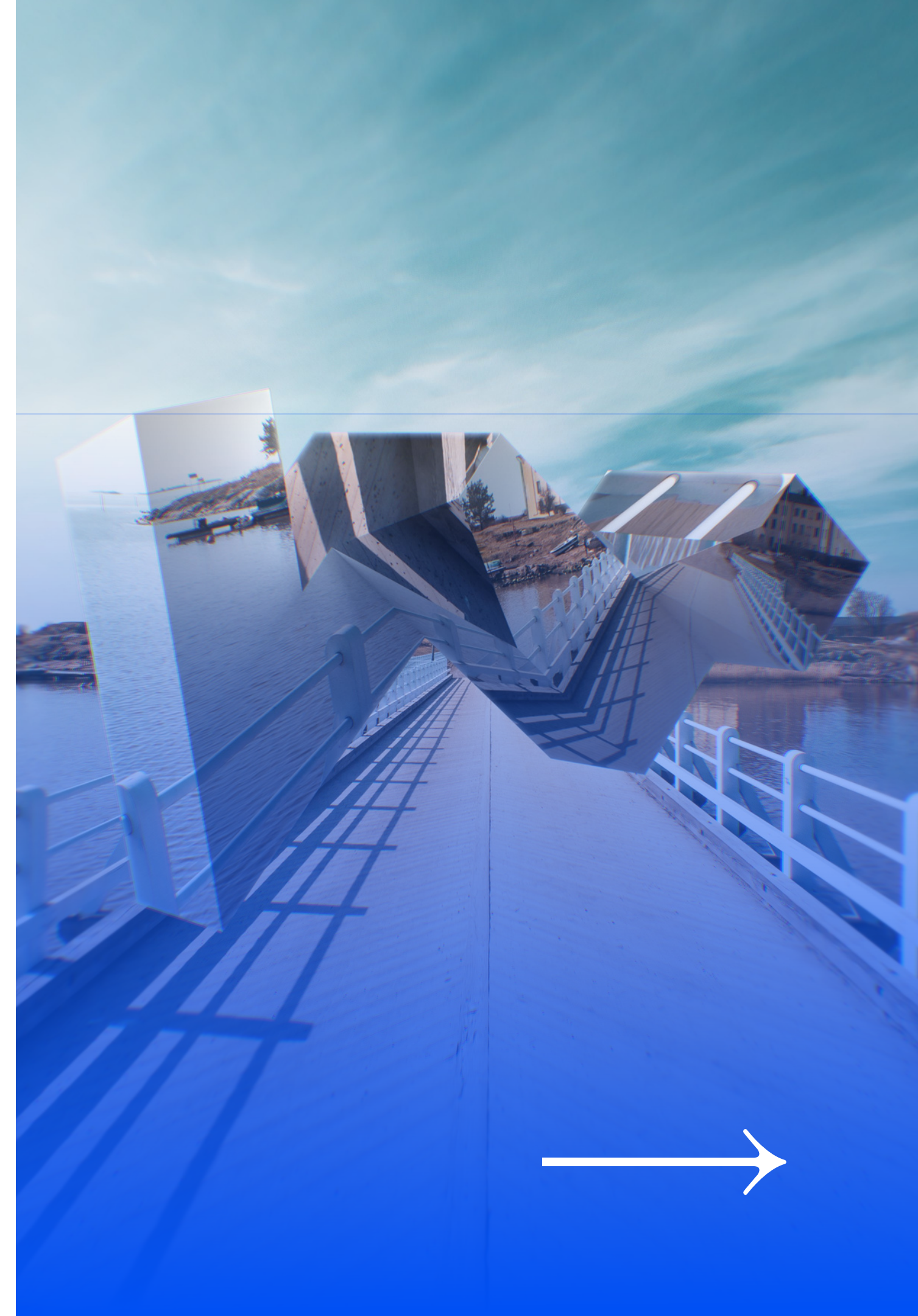revenue 3,3 meur (2020).

sako   NOKIA   PerkinElmer *For the Better*

UPM   DB BAHN   RAUTE

DEUTSCHE BAHN AUTOMATED TRAIN EXPERIENCE

EXAMPLE →

Deutsche Bahn is bringing AI and autonomy to the German railways and train transportation.

Wakeone & DKA developed a real-time visualization solution to demonstrate the capabilities of an autonomous train, running in real-time, on real tracks between Hamburg and Berlin.

Solution consisted designing and integrating multiple data sources into a game engine based visualisation. Application was running simultaneously onboard and in the cloud, streaming to multiple distribution channels.
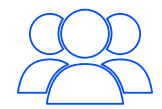
UNDER THE SURFACE OF XR IN THE INDUSTRY

EUROPEAN SURVEY

VAM Realities project conducted a survey for European SME manufacturing companies in 2020. Survey consisted of 46 interviews and 255 online respondents from 13 countries.

60% IS NOT USING

Actual XR technology use was still somewhat limited with around 60 % of the respondents noting that their organization does not use AR or VR at the moment. Moreover, around 25 % reported that their company uses these technologies either rarely or occasionally.

FRICTION EXISTS

Interviewees and survey participants identified a range of issues varying from hardware related e.g. battery capability in AR helmets, resolution and tracking to organisational e.g. magemement support.

Majority (56%) saw that they could not start using the technology on their own, without external support.

MOST SEE THE FUTURE

Overall, a majority of the respondents (65 %) agreed to some degree with the statement that their company would use either AR or VR in the future .

ADOPTION RATE HAS BEEN MUCH LOWER THAN EXPECTED

UNDERLYING REALITIES

CONTENT

Friction in creating great content is still hindering progress.

Tools and required capabilities make it difficult to scale content creation in industrial setting. Varying content requirements in use cases demand specialization.

DATA

For many use cases, data is required to realize the value.

In large scale, data capabilities need to be developed to take full advantage of XR.

ECOSYSTEM

Ecosystem situation is very much in the move.

Big players are investing, BUT their incentives and actions are hard to predict in the short term. E.g. Google, Apple, Meta (ex-Facebook).

HARDWARE

Hardware situation is still too complex for wide scale adoption.

No single solution provides sufficient combination of cost, ergonomics, lisencing, availability and ease-of-use. E.g. AR headset manufacturer (Meta, ODG, Daqri) bloodbath during the last 2 years.

ORGANISATIONS

XR is not on the C-level agenda yet.

Lower levels of the organisations have done a lot of piloting and many of them have gotten encouraging results, but the ROI calculations are not sufficient to drive core investments.

WHAT I WOULD LOOK INTO NOW

EXPERIMENTATION

Evaluate potential high value use cases by looking into expensive and dangerous problems.

Give employees access to self-experiment with the technology. Support innovation coming from the factory floor.

BASE FOR D-TWINS

To take advantage of XR in the future you'll need solid foundations with different types of data e.g. 3D, IOT, location, product.

Build data pipelines and warehouses/lakes, improve org. capability to refine 3D data, create tech capabilities to provide location data.

QUEST, HOLOLENS, VARJO

To grasp scalable VR solution possibilities look into Meta's Quest HDM. To look into the AR/MR future, try out and experiment with Hololens. To blow your mind with advanced VR/MR possibilities for very demanding use cases, go and try out the Varjo HMDs.

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THANK YOU!

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