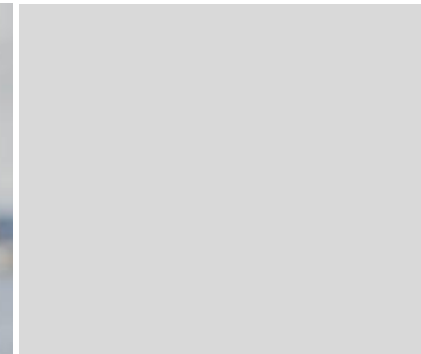→ SOFTABILITY

Tools of modern assembly and maintenance work: AR/VR and Remote Support

Softability is an innovative and growing Finnish software development company.

**Digital Twins in Industry FIIF webinar
Mikko Luukkonen / Sales Manager
07.05.2020**

Agenda

Tools of Modern Assembly and Maintenance: AR/VR and Remote Support

1. Softability Corporate Presentation

2. AR/VR Training and Assisted Work

3. Remote Support

SOFTABILITY

Agenda

Your Software Partner

Consider IT Solved

1. Softability Corporate Presentation

Softability Oy

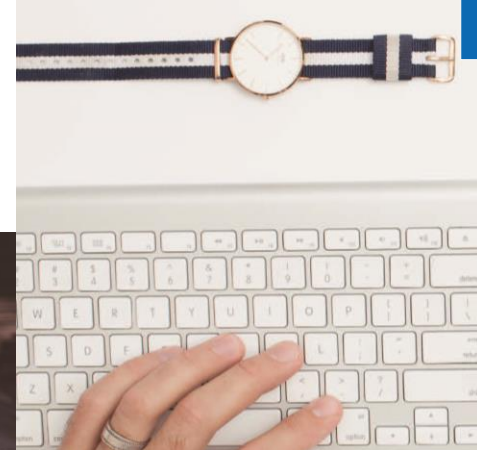**Innovative, growing and profitable Finnish software company.**

- Established 2002, privately owned
- Located at Vantaa
- International customers

Revenues 2019
5,7 MEUR

- Microsoft Gold Application Development Partner
- Microsoft Gold Cloud Platform Partner
- Microsoft Silver Windows and Devices Partner

65+
HIGHLY SKILLED EXPERTS

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Our Mission and Vision

MISSION

Developing a better world with the help of technology and care.

VISION

To be the most warm-hearted and wanted work-community for the development of meaningful software.

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Softability Services

X-REALITY SOLUTIONS

XR Studio develops Augmented, Mixed and Virtual Reality applications for medical and industrial device manufacturers as well as for other businesses.
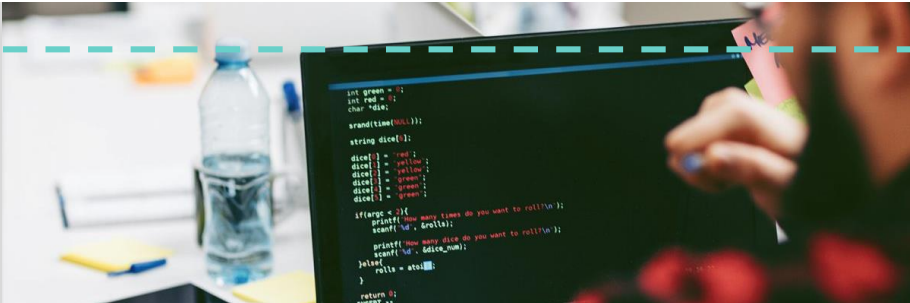
SOFTWARE DEVELOPMENT

We design and implement applications for web, mobile, cloud and desktop – also combined with embedded systems development. We are a Microsoft Gold Partner.

QUALITY ASSURANCE

We offer our customers versatile testing services from manual testing to test automation – on a need basis.

SOFTABILITY

Our Customers

Thermo Fisher SCIENTIFIC

GE Healthcare

KONE

ABB

Rocla

KONECRANES

PLANMECA

Fortum

aiforia
AI for image analysis

PerkinElmer
For the Better

VAISALA

Elekta

FCG.

SKANSKA

Patria

HeadPower
Linking Resources.

TEHOMET
A valmont COMPANY

Perho
CULINARY, TOURISM
& BUSINESS College

SOFTABILITY

XR Studio

XR Studio

(started in 2016) is a business unit of Softability Oy

XR Studio is a team of 10+ person

Our Product:
XReach Remote Support Solution

We design and develop X-Reality solutions to our customers combined with cloud and AI services.

XR Studio References

- **Assembly and maintenance**
  › reference Microsoft and a large Finnish industrial manufacturer.

- **Remote support**
  › references in mining, electronics and military device manufacturers.

- **Sales and marketing**
  › references HeadPower, Tehomet/Valmont and FCG.

- **Training**
  › reference Perho Culinary, Tourism and Business College.

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2. AR/VR Training and Assisted Work

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AR/VR Training and Assisted Work

- Our XR platform supports showing off XR capabilities for assembly/maintenance and fast project implementations.

- It visualizes step-by-step work instructions for workers combined with relevant (IoT) data from devices.

- VR (e.g. Oculus Quest) is used for training purposes and MR (e.g. Hololens 2) is utilized to support the actual work and/or training.

- Both technologies take advantage of the same content which benefits both development of the solutions as well as the end-users.
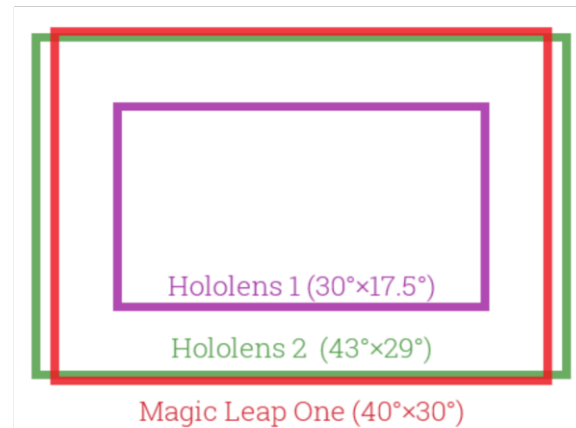
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Oculus Quest – Mature VR technology

- **#1 Easy to setup and get started:**

  - Wireless device with hand controllers, affordable to purchase.

- **#2 Good usability:**

  - Weight of the device is light.
  - Resolution is good enough to read smallish text.
  - Hand controllers are easy to use.
  - Controller free hand tracking is in experimental phase.

- **#3 Suitable for training purposes:**

  - Virtual world with total immersion.
  - No issues with lightning conditions.
  - Full focus on the training task, "no interruptions".

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HoloLens 2 Mixed Reality – Our First Impressions

- **#1 Device is more comfortable:**

  - Can be worn for hours when using an app that provides help and value to user.

- **#2 Field-of-view is larger:**

  - Not double in height or width but better than before and accurate enough to read 8p font.

- **#3 Identifies both hands and what they are doing:**

  - More natural interaction with UI and holograms.

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Hololens 1 (30°×17.5°)

Hololens 2 (43°×29°)

Magic Leap One (40°×30°)

You can now buy Hololens 2 devices from Softability!

Please contact us for more details!

HoloLens 2 - Azure Cloud Connected

- **Azure Spatial Anchors – preview**

  - Persistence of holograms and sharing the experience with other HL2 and mobile devices.
  - Supports wayfinding.
  - Pre-built Azure cloud integrations for managing identity, storage, security, and analytics.
  - Mobile users need to download an app.

- **Azure Remote Rendering – preview**

  - Users see super high-fidelity holograms at excellent resolution on HL2 and Windows 10 PCs.
  - Microsoft does the image processing on Azure GPUs in the cloud and stream the results back to HL2.

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Integrate XR apps with your business

- **XR app needs to be connected with customer's backend systems i.e. ERP, CRM, MES and PDM:**

  - These systems feed the XR app with up-to-date product CAD models, product specifications and work instructions.
  - This requires that the CAD to 3D model conversion and optimization process is highly automated.
  - The best case is to build a customized pipeline for the customer on top of ready-made conversion and optimization tools.
  - Customers need also to be educated on the optimal way of producing CAD models of their products to support the pipeline.
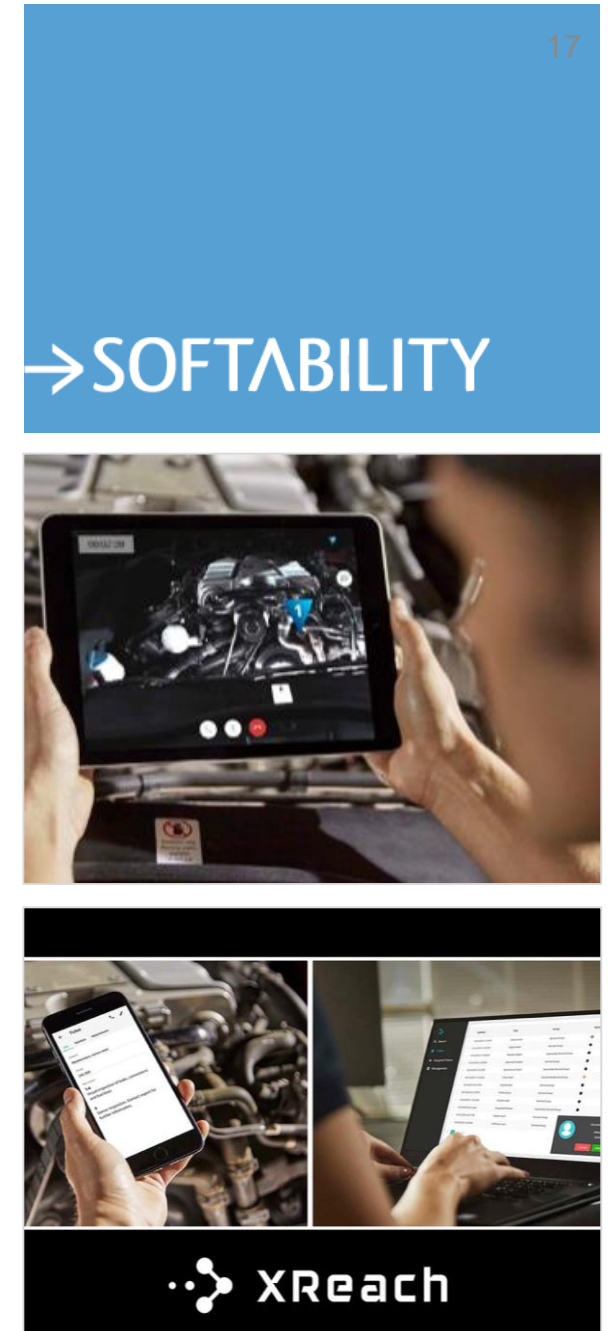
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3. Remote Support

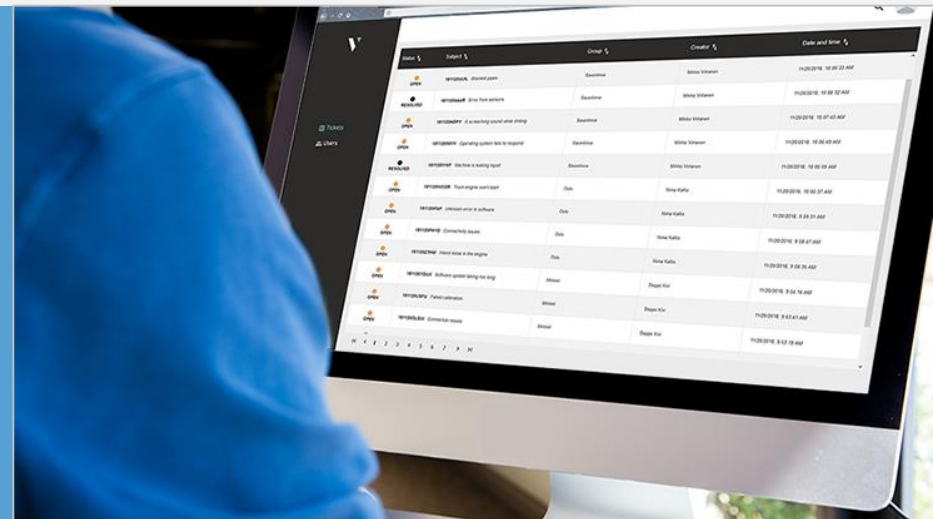SOFTABILITY

Remote Support

- If worker is unable to perform the assembly or maintenance task with the local instructions then she has the option of calling an expert for help.

- Usually these are tasks that are performed rarely or very complicated tasks.

- Our XReach Remote Support solution can be integrated with the XR platform to provide the extra help.

XReach Remote Support

- Sharing of video, audio and documents between a technician on the field and an expert
- Support through online video call where the expert can see all what the field technician sees
- Making annotations and guidance to the video call
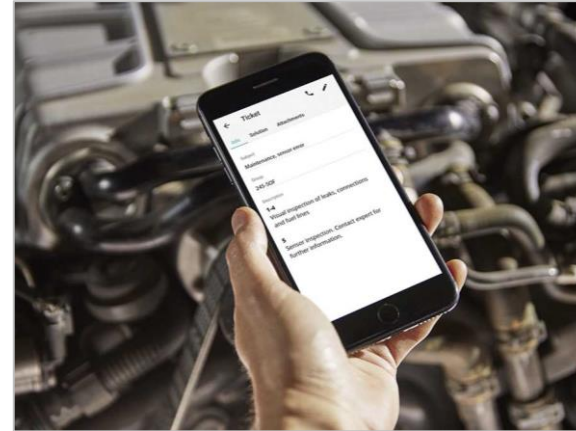- Storing interactive data for knowledge sharing and later use

- XReach is a platform for iOS/Android/smart glasses to offer customized versions for companies with Expert portal on web and mobile.

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XReach Benefits for customers include:

- Time and cost savings

- Less errors

- Increased productivity (internal and external customer)

- Work safety

- Provides interactive data for better development of operations and design of maintenable devices

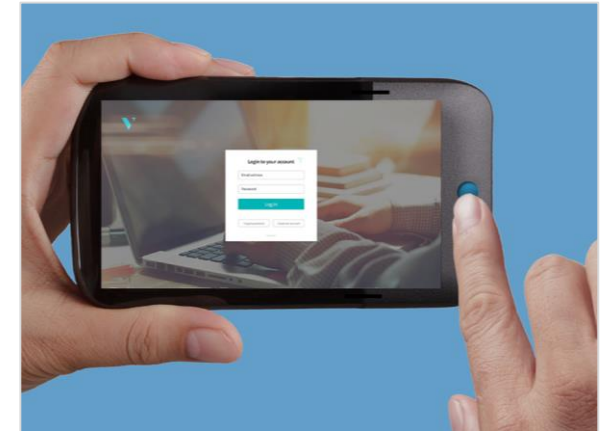- Enables better competence transfer (training)

- Better customer experience

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XReach Competitive factors include:

- Ease of use

- Customizable and integratable solution

- Adding interactive data to existing ticket systems

- Cloud and On-premise solutions

- Augmented Reality (AR) features for instructions and smart glasses use

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