Agricultural Data Processing Centre Ltd

Farm Management Solutions in the Digital World – Christian Jurvanen

PRO.
Agria Maatalouden
Laskentakeskus

Agenda

- **Introduction to the Agricultural Dataprocessing Centre ltd**

- **Farm Management Solutions in the Digital World**
  - ➡ **What are the requirements?**

- **Farm Management Solutions in the Digital World**
  - ➡ **Presenting MyFarm.fi - platform**

- **Summary of key points**

Introduction to the Agricultural Dataprocessing Centre ltd

Facts and Figures

Agricultural Data Processing Centre Ltd is the leading provider of digital solutions for bioeconomics

- **Key details**
  - Established in 1986 (1958)
  - Annual turnover 9,8 M Euros (2016E)
  - Net profit 0,3 million Euros (2016E)
  - Amount of personnel ca. 100
- **Owned by farmer organizations**
  - ProAgria Group: Faba and ProAgria Association of Rural Advisory Centers (90 %)
  - Central Union of Agricultural Producers and Forest Owners (10%)
- **Customers**
  - Farmers, over 20 000 individual farm customers
  - Advisory organizations in Finland and Nordic Countries
  - Ministry of Agriculture and Forestry and the Food Safety Authority
  - Food Industry
  - Other bioeconomy companies and non-profits
- **Organization**
  - Over 70 information technology and software development professionals
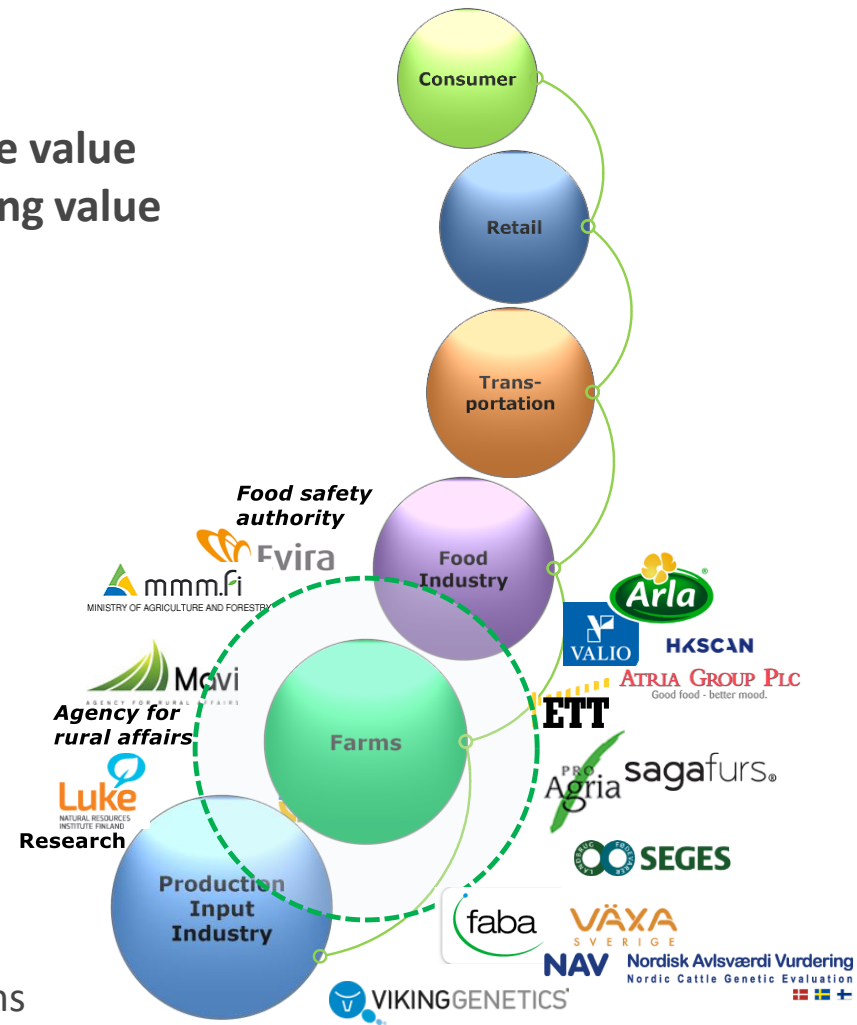 - Over 30 professionals with expertise and education in bioeconomics

Microsoft Partner
Gold Desktop
Gold Web Development
Silver Data Platform
Silver Server Platform
Silver Software Development

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Integrating Information

- **ADPC is an information integrator within the value chain, integrating information and developing value adding digital solutions**

- **Key knowledge areas**

  - Production animal related
    - Animal identification
    - Herd and farm management
    - Milk & beef recording
    - Animal breeding
    - Artificial insemination
    - Animal health & welfare
    - Fur animal breeding and management
  - Crops and cultivation
  - Economical management and planning for farms

B2B: Digital Solutions for Bioeconomy

DIGITAL SERVICES
Multifaceted IT solutions for business development

INFORMATION SYSTEMS AND INTEGRATIONS
System and process integrations – added value to business

MOBILE SERVICES
Customised mobile services for business development

PROJECT DELIVERIES / TURNKEY SOLUTIONS
Agile complete solutions from ideation to management

TESTING AND QUALITY ASSURANCE
Tests and quality assurance to all project stages

IT IN INFRASTRUCTURE / CLOUD SERVICES
All services related to data centres and cloud services

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B2F: Web and Mobile Farm Management Solutions

- Dairy and beef cattle farm management (**MyFarm Cattle**)
- Production planning, feed optimization and production prognosis (**CowCompass**)

- Sheep and goat farm management (**WebSheep**)

- Financial management application with accounting, taxation forms, bank payments and transfer etc (**WebWakka** and **WebWakka Pro**)

- Crop production planning and management (**WebWisu** and **MobiWisu**)

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Some of our customers and partners

Farm Management Solutions in the Digital World

What are the requirements?

Holistic view over the farm management

- Farms are growing, both in terms production units (e.g. number of animals, area of crops) and in complexity. Increased productivity is increasingly reliant on automation, taking advantage of even more in-depth information and systems thinking to manage the complexity

- Therefore, to get the best results, **a holistic view over all key aspects of farm management** should be achieved – different aspects should not be managed separately but as whole to achieve system level results

  → Cattle production and production planning, crop and cultivation management (e.g. feedstuff), finance and economics, logistics, subcontracting, extension services, work and personnel management, taxes and regulatory tasks etc.

  → Systems thinking!

- Holistic view incorporates also a spectrum of activities ranging from every day operational tasks and to longer term strategic planning: different roles and perspectives for the users

- ERP system type experience?

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Data, information and knowledge

- **Data is individual pieces of information: e.g. kilos of milk, fat, protein in test milking or an activity measurement at particular time**

- **Information is aggregated and/or contextual data: e.g. low milk yield cow, very active cow**

- **Knowledge is actionable information**
  - Why is the milk yield low or the cow very active?
  - What should I do about it? Should I change the way I do things?
  - Can I predict something adverse and take an action to prevent or mitigate

- **We have tended to give too much data and information, but not enough knowledge … This has to change and is indeed changing rapidly**

Integrating data into knowledge

- **Actionable information (knowledge) will provide the most important tool for both short term actions as well as long term planning.**

- **Knowledge is formed by in-depth analysis of data (i.e. sensors and smart algorithms) and/or integrating heterogeneous information**

  ➡ It will be created by increasing number of tools and devices, and often in heterogeneous formats and commonly used from specific perspective only

    ➡ In addition to traditional devices like milking robots, milk or crop analysis, harvesters and such, there is increasing number IoT & sensor technologies for animals and environment conditions, satellite data or imaging data etc.

  ➡ Farm is also a part in information chain where information is coming from different partners like breeding/AI, analysis labs, food industry etc.

- **To take most advantage of it all, integration of data sources, processes and systems is the key**

- **Farm management solution should be an integration platform that can integrate these data sources and help to manage complexity and provide a system level perspective to the farm management**

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Mobility and easy of use

- **The freedom of device and mobility are prerequisites today**
  - Use whatever device in the mobile digital world that suits your purpose and need
  - Solutions adaptive to different devices be they mobile, tablet, laptop or desktop.
  - This often means cloud based solution that are natively mobile

- **Last but not the least – if the information is not presented in a user-friendly and customizable manner, it only "scratches the surface".**
  - Too much and too diverse information, not enough actionable information in easy to digest format, will not help but may even just confuse
  - Users attention should be focused into actionable information that deliver the value

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Farm Management in the Digital World

Presenting MyFarm.fi – platform

MyFarm Vision –
Total farm software in one, customizable package

MyFarm - Cattle
beef and dairy management

MyFarm - Wisu
Crops & cultivation management

eProAgria dashboard: KPI's & advisory interaction

Milk recording & dairy farm advising

MyFarm – Wakka
Economics and financial management

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OUR MAIN GOALS

Develop our existing management solutions into one new digital platform

Create a platform that can integrate with 3rd party solutions and databases

Integration with extension services: continuum of DIY or advisory services

Fully mobile concept that is device, operating system and browser independent

Ease of use

What is MyFarm - Cattle?

ERP-program for dairy and beef cattle farms
- In pilot production since April 2014 and in full production use since December 2015
- Milk recording, Beef recording, Benchmarking
- Official & government cattle register registration
- Integration platform: farm equipment and automation, 3rd party ERP systems from e.g. dairies, slaughterhouses

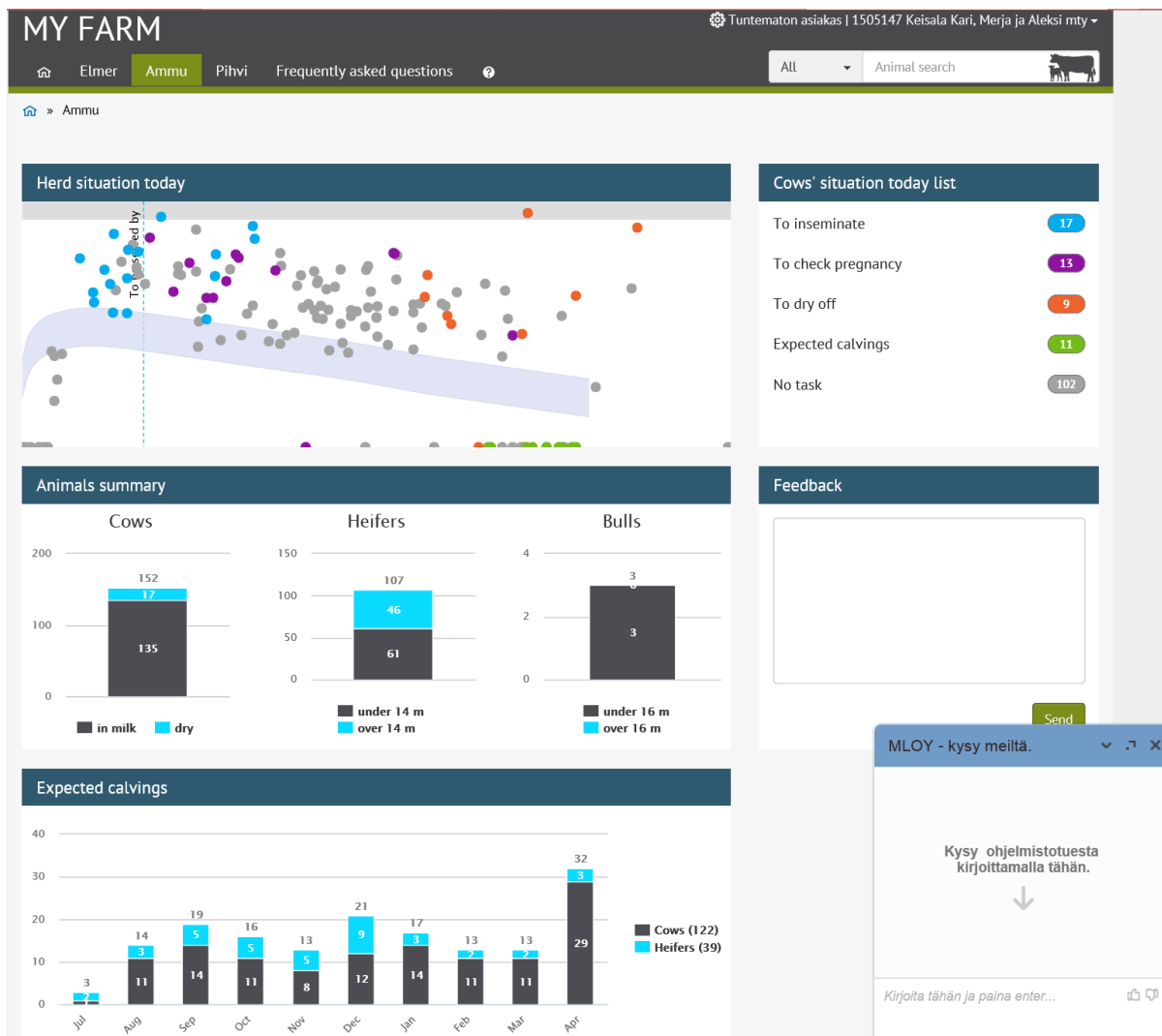**Choose the most comfortable way of using**
- Select the device based on the needs of work process and user preferences: PC, Mac, tablet or mobile
    - 70% of the current use is computer based
    - 30% of the current use is mobile based and trending strongly up → use and enter the information at its source: end of paper notes
- Customizable for just your need - advisor or farm
- Multilanguage: Finnish, Swedish, English and Russian

Module-based approach
- Select the features you need
- New functionalities as "packages"
- Built-in product management and license sales platform

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MyFarm Dashboard – just the tools you need

Choose the tools you need - from ever-growing set of functionalities

Advisor or farmer or worker – customize it to fit best just for your needs, and way of working

From Data to Information

From Numbers to pictures

From Registration tool to Workflows

User-support extended to chat and remote support

What is MyFarm – from technical perspective?

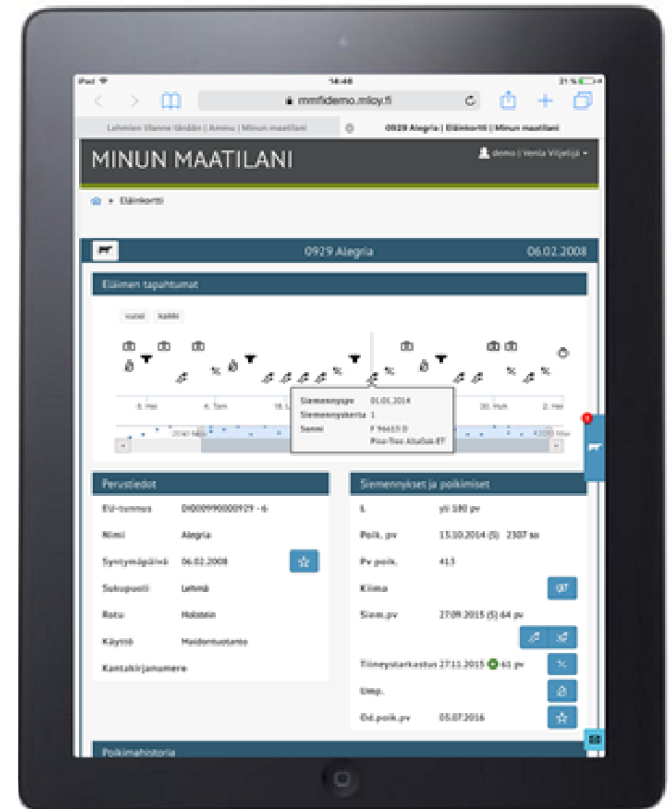**Ease and predictable in maintenance**
- Expected lifecycle over dozen years
- Updates immediately available to all
- No delivery, no shipping, no IT support costs
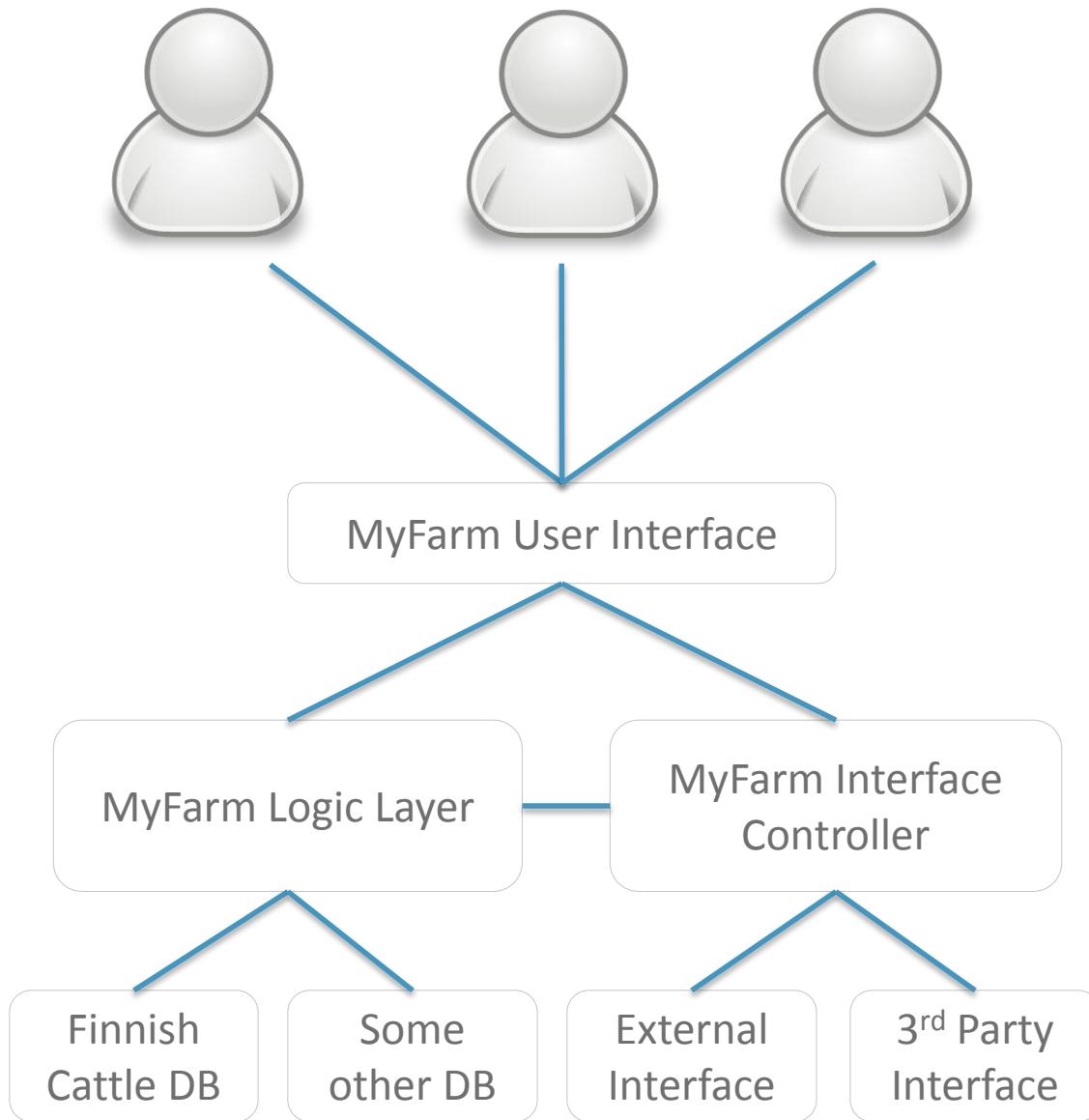- User-support extended to chat and remote support

Integration platform
- *Data sources* e.g. slaughterhouses, dairies, officials and veterinary systems
- *Devices,* e.g. milking robots, scales, ear tag readers, IoT solutions and sensors
- Services, e.g. integration with extension services solutions and services

Modular implementation
- Implemented so that e.g. database can changed while other functionality remains ("MVC")
- Modularity in architecture – build a platform which allows flexible integrations, additional services and even changes of data sources
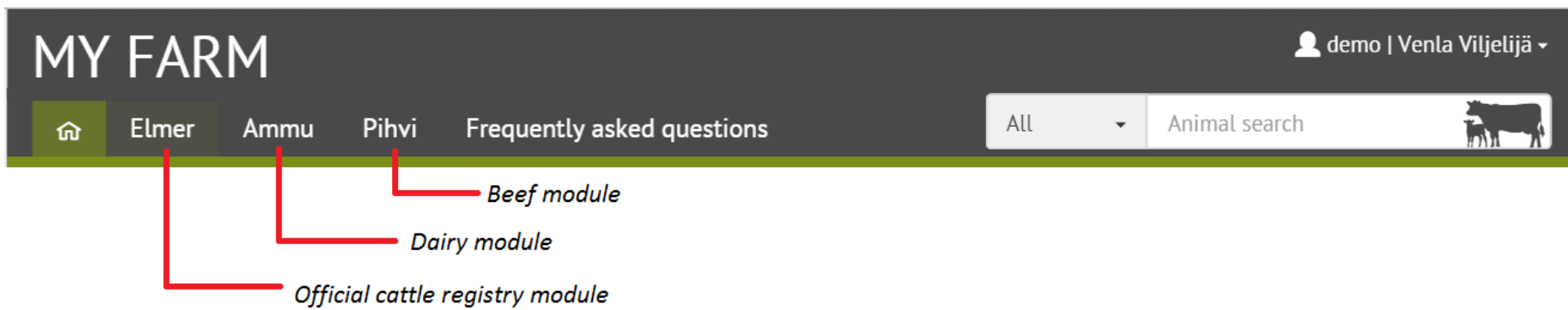
- HTML5 / JavaScript / ASP.NET MVC / C# / REST / SQL

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MyFarm Platform

Users with different devices, different profiles and needs

MyFarm User Interface

Common User Interface – full mobile support, customizable and modern

MyFarm Logic Layer

MyFarm Interface Controller

Logic separated – allows replacement of databases, or UIs

Finnish Cattle DB

Some other DB

External Interface

3rd Party Interface

Built-in interface controllers Consume or deliver data to different sources

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Next features and near future plans (2016)

MY FARM — demo | Venla Viljelijä

Elmer → Official cattle registry module
Ammu → Dairy module
Pihvi → Beef module

Next steps include e.g.

- Support for farm workers – task assignment, authorization etc.
- More integrations – IoT / sensor integrations and scale systems
- Integrated product handling, invoicing and ordering system
- AmmuLink NCDX – Finnish delivery platform for the NCDX

Upcoming features include e.g.

- New features for benchmarking, geolocation and map features etc.
- Integration with crop & cultivation
- Integration with farm economics
- IoT platform integrations

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Summary of key points

- **Farm management solutions should aim to provide ERP experience**
  - Holistic view of managing farm and its activities
  - Why should farms settle for less?

- **Platform (systems) thinking**
  - Value is provided both by individual solution, services and technologies and by integrating into easy to use concepts
  - Platforms are a way to unleash the innovation capabilities of 3rd parties so you all can deliver more value to the farmers
  - From the perspective of extension services, delivering a seamless continuum of services from DIY apps to in-depth consulting services is critical

- **Concentrate on providing knowledge instead of just data and information**

- **We live in the "mobile first" digital world now**
  - Users must be able to choose the way they want to access the information
  - Providing fully mobile experience is a must have feature

- **MyFarm.fi – platform is and will be the best farm management solution in the world** ☺

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Thank you

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Read more about our digital services:
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