The Automation of Data Collection From On-Farm Software

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Know your cows, know your business

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NMR PLC Business

9,700 Dairy Farms GB (4,052 record with NMR)

Direct Competition with other MRO's

750,000 recorded cows

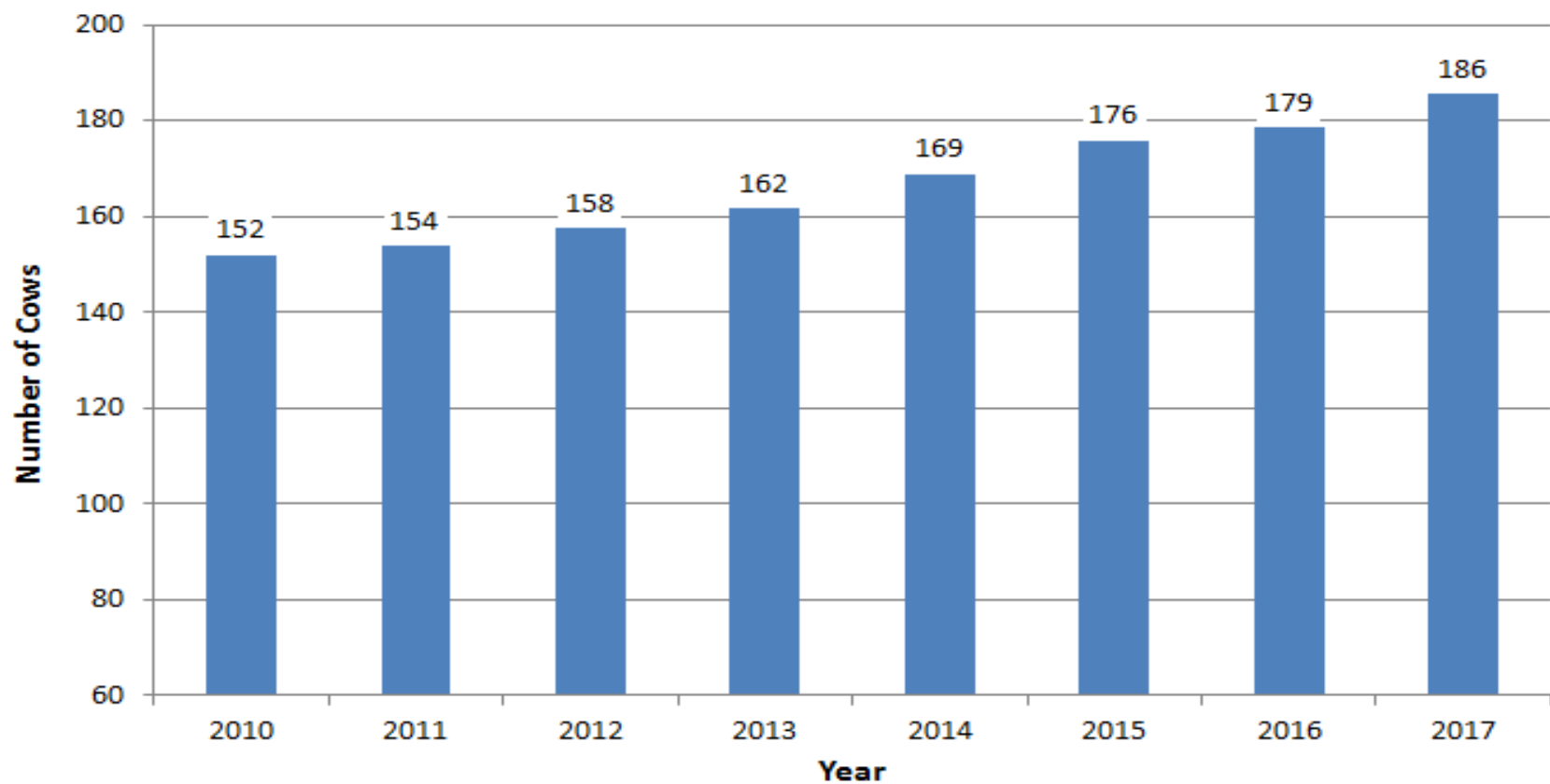Milking herd size- 175 Scotland, 186 England & Wales

305 day yield 7,392Kg (10,023 Kg natural)
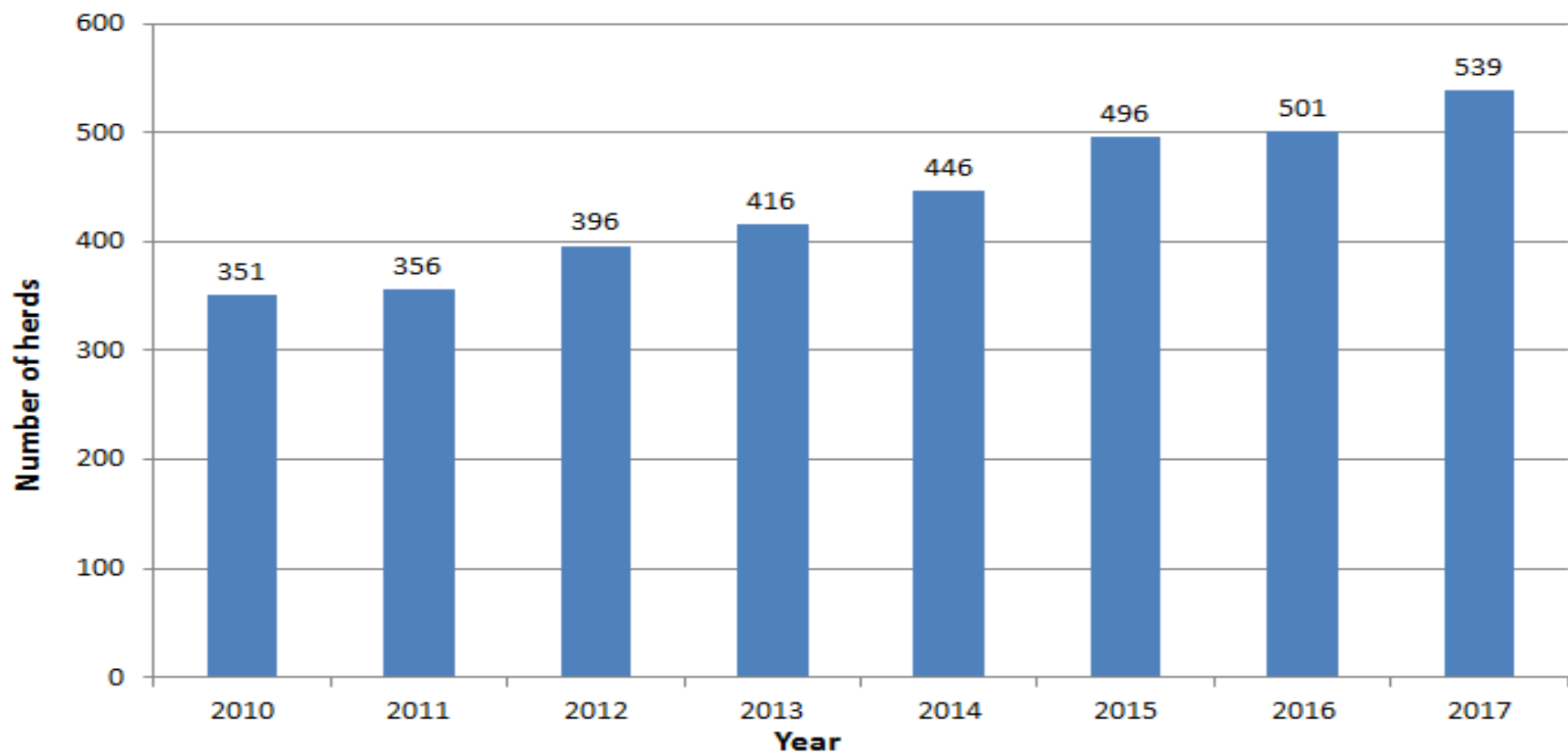
Fat 3.99%, Prot 3.23% (305 day lactations))

Services: A (Assisted recording with milk recorder and /or sampler).   B (DIY recording). C (alternating assisted recording and DIY). T (Factored where only one yield and or sample is taken at each recording). Non Authentic G4 and Essential Sampling (400 customers).

Frequency : 3,4,6 and 8 weekly

Average Herd Size

Number of Cows vs Year

| Year	Number of Cows
2010	152
2011	154
2012	158
2013	162
2014	169
2015	176
2016	179
2017	186

Herds with >300 Cows

THOR (Total Herd Online Recording) (Norse God of Thunder and Battle)

•Milk recorder laptop is updated with the cow events at the monthly visit then uploaded to the NMR database following the recording visit.

FREYA- 2017 (Farm Recording of Events, Yields and Actions) (Norse God of a number of things including fertility, wealth and prophecy)

•Farmer records events throughout the month . On-farm and NMR systems communicate daily using XML files and the NMR database is updated with herd events, NMR recording rules applied and either successful events are recorded and reported back to the on-farm software or an error is returned to the farm. 98% of data is already done when the recorder arrives at the farm.

•UNIFORM-Agri on farm systems currently but other systems to be brought on line.

•On line data entry also available for farms without on-farm software.

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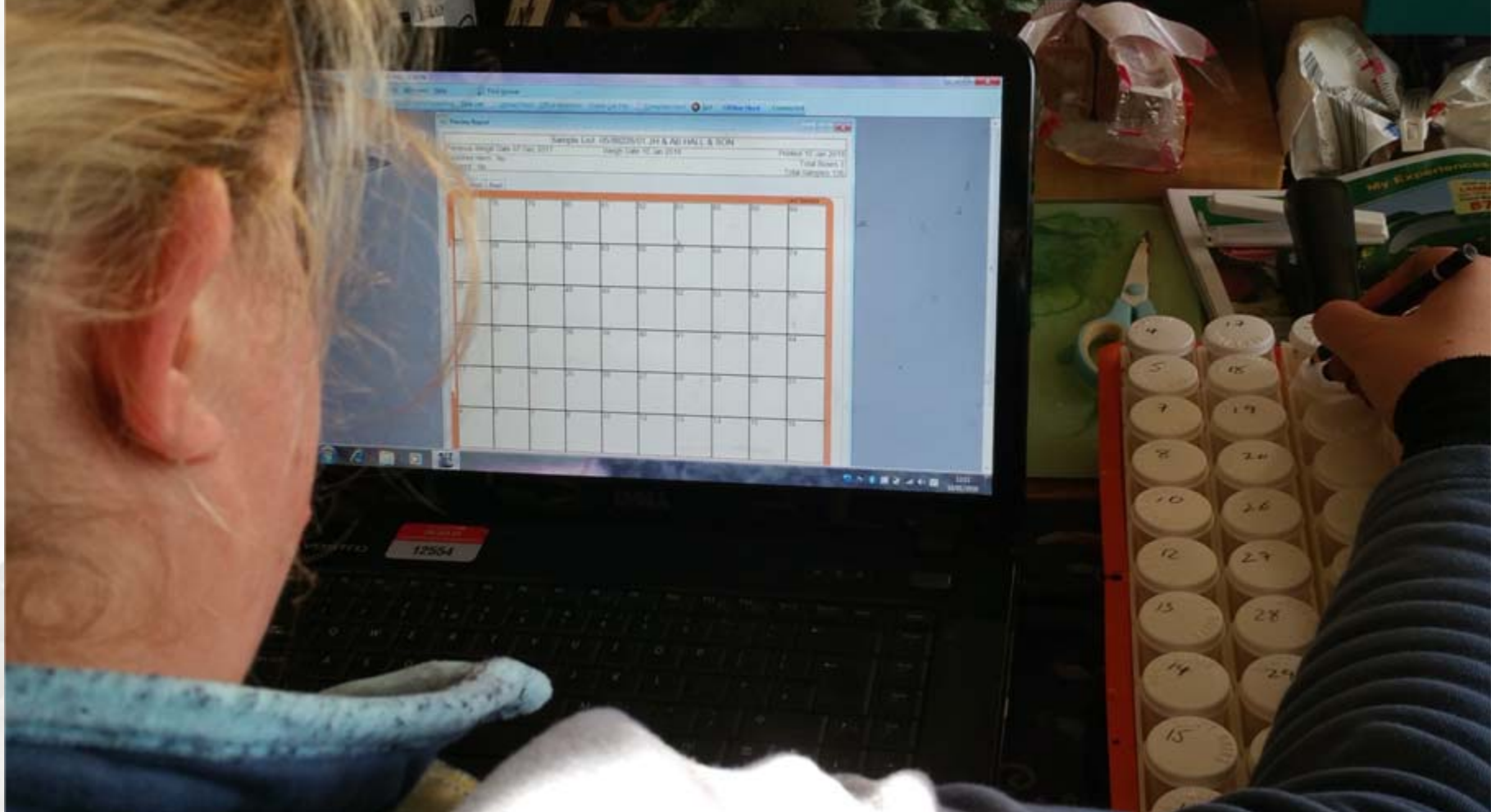
Why have we invested in connectivity?

• **We live in a connected world. This sort of progress is expected by our customers.**

• **We want to encourage farmers to record additional data- lameness, mastitis etc. and we will look further where else we can get data (vets/ AI companies etc)**

• **We want to encourage PARTNERSHIPS with our farmer customers**

(cont)

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Why have we invested in connectivity? (cont)

- It simplifies recording – all the event data is already updated before recording day. Farmer continues to record data in his usual way.

- Live data is available on farm for vets/ consultants any day of the month.

- Calf tags are already in the system if the farmer wants to carry out genomic testing- vial barcode linked to calf tag.

- It gives NMR a competitive advantage.

Data Quality improvement

- Farmers can search for bulls using the on farm software (NMR hold the National Bull File)

- Role of recorder changes from Data Entry to Data Quality, dealing with the errors and missing/ rejected data.

- Farmer can enter event data but can only amend service sire currently. Any other amendments need to be completed by the Milk Recorder.

Speed of service to Customers

- Samples are collected throughout the day and arrive at the lab from 9.00pm.

- Laboratories test samples overnight, 7 days a week.

- Many herds have updated yield and sample data the morning after recording added to daily event updates

- Average under 2 days turnaround

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FREYA project- progress so far

- Work in progress

- Throughout 2017, individual herds were switched to live for 2 recordings and data monitored closely.

- Milliseconds to process daily. 98% of data is already downloaded at the monthly milk recording

- 45 herds are live using UNIFORM-Agri software

- Roll out to the remaining UNIFORM-Agri herds is ongoing

- Aim to incorporate other on farm software providers (Interherd + (PAN), SUM-IT, Farmwizard, DairyCOMP and others)

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Conclusion

- Automated data collection and reporting

- Increased use of records by farmer customers without any additional input

- Improved data quality

- Less recording day hassle for farmer and milk recorder

- Gives NMR a competitive advantage

- Increases the partnership with the farmer customer

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Introduction UNIFORM-Agri

The Company ("UA");

- International operating company specialised in Dairy Herd Management Software.
- Over 10.000 Farmers using it daily in over 50 countries.

Features;

- Over 100 national interfaces (incl.: DE, DK, NL, IT, UK, FR, BE, SW, AT, ES, PL, RU & others)
- Interface with parlor/robot systems (2-way)

    with: DeLaval, SAC, GEA, Lely, BouMatic, DairyMaster, Fullwood, Afikim, Panazoo a.o.

    Other links: Heatime SCR, Nedap Velos, SmartBow, Engs, & TMR-tracker

- Generic interface, "Open interface", for 3rd parties.

- User Friendly, Fast & Easy data entry, high quality analysis and solid data validation

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Success Factors in Freya project

NMR took the initiative with this project together with the two major suppliers of on farm software in the UK.

- **NMR and UA both focussed on;**

    Innovation (new technology)

    The benefit for the joint customer.

- **Both parties invested in the development of their own work.**

- **NMR and UA were both interested in good quality of data.**

- **There is a good understanding at top level management.**

Thank You

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