NFU SPOTLIGHT ON FARM BROADBAND & MOBILE NETWORKS: ONE YEAR ON

The NFU surveyed over 800 farmers in 2015 and again in 2016.

What's changed?

- **Increase in 4G coverage: 75% of smartphone users now have 4G coverage compared with 70% not having coverage in 2015**
- **Still only 15% of farmers had reliable phone coverage across the farm**
- **Farmers report that access to voice coverage has reduced**
- **Lack of broadband coverage: only 6% of farmers surveyed in 2016 had superfast download speeds**

Key asks for Government:

The NFU is calling on Government to make the digital economy universal by ensuring the rollout of superfast broadband to all farms and growers and their rural communities, alongside complete mobile phone coverage. This will mean ensuring that there is necessary regulation in place and there is a competitive rural market. It is essential to lay the foundations for 5G coverage for farming now; the full delivery of the Government's Agritech and Industrial Strategies depend upon it. Our Spotlight on farm broadband and mobile networks sets out the solutions to deliver this.

NFU SURVEY RESULTS 2016

MOBILE

97% of farmers own a phone

57% of farmers own a smart phone

18% had a reliable indoor signal

75% of smart phone users have 4G coverage

92% agreed having a reliable signal was important for their business

42% had reliable signal in only a few outdoor locations

BROADBAND

5% don't use the internet

63% own a tablet

79% get internet over copper wire infrastructure

6% use satellite

15% had a reliable outdoor signal

83% had an upload speed of 2mbps or less

6% had access to superfast download speed

56% had a download speed of 2mbps or less

WHAT IS CLOUD COMPUTING?

Superfast internet access allows farmers to use cloud computing, where data and programmes are stored and accessed over the internet instead of the farm computer's hard drive. Farmers can choose who to share their information with, and it can be accessed and downloaded from any location whenever needed.

KEY ADVANTAGE:

Remote Access. Information can be accessed from any device anywhere in the world. This increases efficiency and productivity.

KEY DISADVANTAGE:

Internet reliance. Cloud computing is reliant on a fast and reliable internet connection in order to access and make full use of data stored on the cloud.

HOW IS CLOUD BEING USED?

ANDREW WEBSTER

LOCATION: LANCASHIRE **FARM TYPE:** ARABLE, HORTICULTURE
TECHNOLOGY: CROP MANAGEMENT SYSTEM
BROADBAND SPEED: 4MBPS

Andrew uses 'Livetrace', a cloud based system developed by Mercian, this links with another cloud based agrochemical system 'Greenlight Grower Management'. Both of these require the input of real-time information into the cloud. The farm's 3G coverage is reasonable but 4G is patchy meaning that information inputted into the software in the field must wait to be synced with the cloud on return to the yard. Andrew's agronomists have remote access to interpret data and make crop management suggestions, whilst potato manufacturers are able to view real-time images and information about the crop on the Livetrace system. This makes management more robust, multiple expert parties are involved in the process as opposed to it being solely reliant on one individual assessing crop need in the field, or having to wait for the agronomist.

VIV TANNA

LOCATION: KENT **FARM TYPE:** TOP FRUIT
TECHNOLOGY: WEATHER AND SOIL MOISTURE MONITORING
BROADBAND SPEED: 4MBPS

The Tannas use a cloud system for monitoring weather and soil moisture conditions. A weather station records weather conditions and transmits this information to the cloud. This is particularly important for air temperature, especially when considering how sensitive cherries are to frost. The cloud will send a temperature warning out in the form of a text if the air temperature drops below 1.5 degrees centigrade. This will alert Mrs Tanna to turn on her 'Frostbusters' which protect the cherry crop from frost.

HOW IS 4G BEING USED?

MEMBER: FRANK LANGRISH
LOCATION: EAST SUSSEX **FARM TYPE:** BEEF AND SHEEP

Frank, like all sheep farmers, is required to electronically ear tag his sheep. A hand-held device is used to scan the sheep's ear tag and this information is then uploaded into the National Livestock Management Database using a broadband connection. Frank then relies on a good 4G connection to access the database and retrieve movement and other information about his livestock on mobile devices. Speed of connection is vital, Frank manages a flock of 5000 breeding ewes across multiple holdings. For Frank, time-saving and accuracy are the biggest benefits. As Frank put it; *'anything that is electronic and makes life easier has to be good'.*

MEMBER: ROGER JENKIN
LOCATION: CORNWALL **FARM TYPE:** DAIRY

In 2015 Roger's broadband was so poor he was penalised for not being able to send completed cattle passports online. By 2016 his fixed broadband connection and 4G connectivity had improved so significantly that he has been able to install and monitor robotic milking machines. Information from the robots is stored on the home computer and is accessed from mobile devices using 'Teamviewer' technology. Being able to monitor the robots and access information remotely means that Roger can make the most of his investment in new technology.

THE FUTURE: 5G

Future agri-technological advances could help all farm sectors reach their full potential using cloud technology and advanced radio networks. Now is the time to start creating connected fields and farm buildings and help farm communities live better connected and healthier lives. Effective 5G network design means universal coverage, with safe, fast and efficient network systems that farmers can access to provide food and rural based services for domestic and international markets, whilst maintaining the countryside we all cherish, work in and visit. Now is the time to plan for universal coverage.