



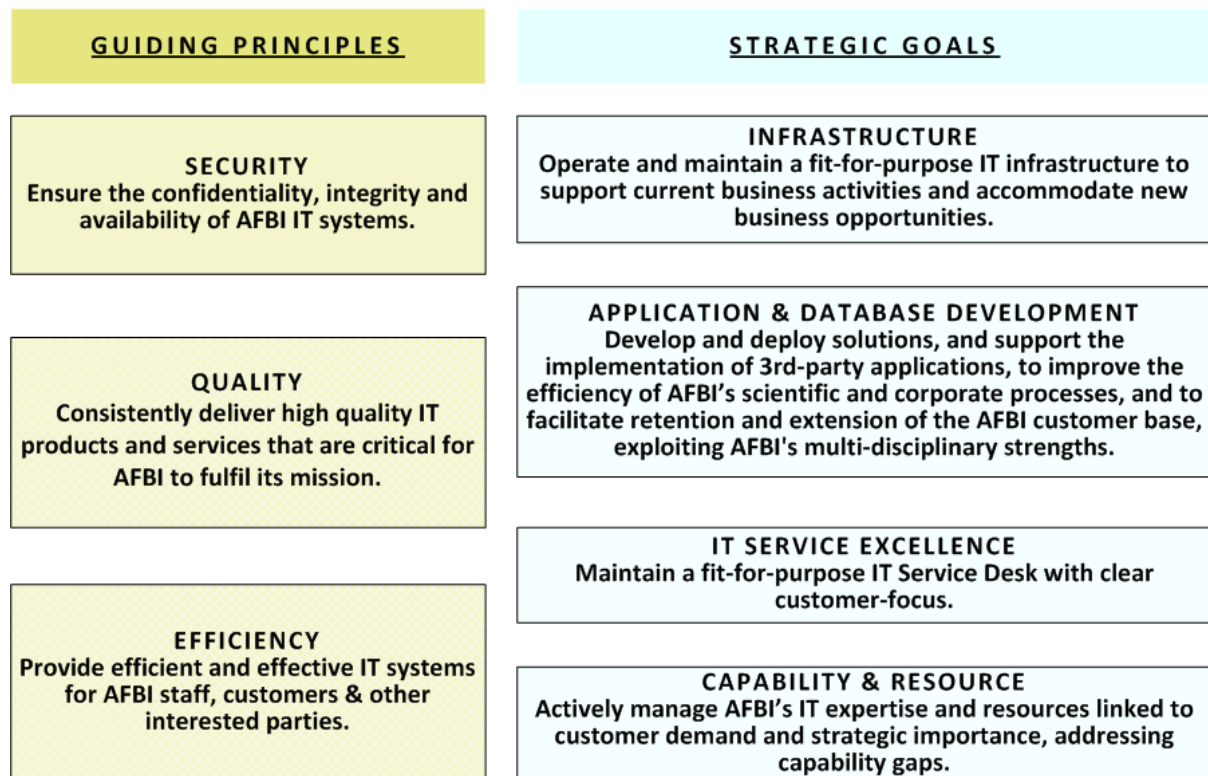
# **INFORMATION TECHNOLOGY (IT) STRATEGIC PLAN 2017 - 2020**

## **EXECUTIVE SUMMARY**

Using Technology for Competitive Advantage

AFBI’s rolling four-year Information Technology (IT) Strategic Plan developed for 2017–18 to 2020–21 underpins the Institute’s capacity to deliver science through fit-for-purpose computing infrastructure and high-quality bespoke software solutions, in support of the agri-food industry locally and globally.

The IT Strategic Plan identifies four goals, their respective objectives and key strategies, and specific projects to support AFBI in the delivery of its corporate goals. This is to be achieved with definite emphasis on delivery and outcomes, clear customer focus, and an open and collaborative approach, cutting across internal boundaries. The Plan is responsive to changes in technology, user expectation and business need.



Through an emphasis on IT service excellence and a high-performing IT workforce, the IT Strategic Plan establishes a framework to drive service delivery and provide capabilities to meet the current and future needs of the Institute. The Plan is a deliverable within the Finance & Corporate Affairs Divisional Plan for FY 2017 (FCAD KPI 6).

Information Systems Branch (ISB) will monitor, review and report progress against objectives using relevant performance indicators, benchmarks, and targets. This will ensure the Plan continues to meet AFBI business need and align with the external environment.

The Plan has evolved through an extensive process of consultation and information gathering. It sets out strategic IT priorities in key areas, and a multi-year action plan to support AFBI in the delivery of its corporate goals. This is to be achieved with definite emphasis on delivery and outcomes, clear customer focus, and an open and collaborative approach, cutting across internal boundaries.

## CORE COMPUTING INFRASTRUCTURE

ISB will continue working with IT Assist (NICS shared services provider) and other suppliers to refresh AFBI's core network, server and storage infrastructure to enhance performance, reliability, security and scalability, and provide a sound platform for collaborative research.

In Year 1 (17/18) ISB will take steps to improve networking at the three main sites and source a new corporate storage solution. ISB will work with IT Assist to implement NICS SharePoint Data Sharing Services to enable research documents be shared externally securely and efficiently.

In Year 2 ISB will implement new IT service management protocols to further ensure that AFBI IT services dovetail with scientific and corporate programmes. ISB will rectify an audit non-compliance by instigating regular IT infrastructure resiliency testing.

In Year 3 ISB will refresh its enterprise database platform.

AFBI's "2020 Strategy" includes plans for an ambitious programme of capital investment in AFBI's infrastructure, improved facilities at AFBI Hillsborough, and a new veterinary sciences building. ISB will continue to support these and other Estate projects.

In Year 1 (17/18) ISB will begin planning for multiple room and building modifications across the AFBI estate, primarily Newforge and Loughgall.

In Year 2-4 ISB will continue to align its work with emerging Estate timelines, e.g. the planned new build at VSD-Stormont.

## DATA MANAGEMENT

ISB will address data security risks by consolidating scattered data sources to facilitate data management, data security, and data analysis and reporting, reducing risk to project delivery and aiding compliance with new data protection regulations (e.g. GDPR 2018).

ISB will promote democratisation of data access, providing non-IT specialists with assisted or self-help means to discover, extract, analyse and report data securely and efficiently as appropriate.

ISB will support or implement tools designed to create a more collaborative organisation, and tools to enhance mobility options for internal and external stakeholders as appropriate.

In Year 2 ISB will begin to future-proof the management of AFBI's data repositories, which continue to grow exponentially in volume and complexity, by aligning data management and security with international standards, and taking steps towards a common data infrastructure.

In Year 2-4 ISB will provide strong and comprehensive data management support to research initiatives. This support may, on occasion, require the embedding of ICT-graded database posts in science branches; such support should be provided as a service for greater contingency.

## RESEARCH SUPPORT

### ➤ GENOMICS

AFBI's Building Genomics Capability project aims to develop a track-record in animal, plant, fish and pathogen genomics to increase the Institute's potential to attract DAERA and external funding in this key growth area. One of the project's objectives is the 'establishment of enhanced network and IT capacity for DNA storage'.

This cross-divisional project has an initial timeline to March 2022, and is expected to have significantly longer-term strategic importance for AFBI in terms of further research and income.

In Year 1 (17/18) ISB will work with Genomics teams to determine server processing and storage requirements and develop business cases as required.

In Year 2-4 ISB will support Genomics teams by procuring and implementing specialist computing infrastructure, and by deploying specialist database and software development expertise to facilitate data management, analysis and reporting, reducing risk to project delivery.

ISB will align its various work strands with other genomics-based initiatives that AFBI may choose to become involved with, e.g. AMR (antimicrobial resistance) and feed efficiency.

#### ➤ CIEL

AFBI is a key partner in the UK consortium formed to create a step change in livestock farming through collaborative research and innovation. AFBI is receiving funding to part-host CIEL's Informatics Hub, which will support livestock genomics and informatics, and provide training to individual breeders and breeding companies in their delivery of genomic improvement.

This project has an initial timeline to March 2022, and is expected to have significantly longer-term strategic importance for AFBI in terms of further research and income.

The project is expected to have very substantial storage and networking requirements arising from grazing and feeding research platforms and the need to communicate with cloud based services supporting the new technologies.

In Year 1 (17/18) ISB will, for example, work with clients to determine network and storage requirements. A business case is to be developed for procurement. ISB will work with the CIEL team to review options for data storage and to identify and evaluate suitable networking technologies.

In Year 2-4 ISB will, for example, support the introduction of specialist computing infrastructure and deploy specialist database and software development expertise to facilitate data management, data management, analysis and reporting, reducing risk to project delivery.

#### ➤ COMPASS

This EU Interreg-funded project will create a state-of-the-art network of buoys to effectively track, model and monitor aquatic life and oceanographic processes, on a cross-border basis.

This project has an initial timeline to March 2021, and is expected to have significantly longer-term strategic importance for AFBI in terms of improved data management and data visibility. Key to success is aligning with international standards/guidelines for data management, and building a common data infrastructure for consolidating and managing observational environmental and biological data internally and making it discoverable.

In Year 1 (17/18) ISB will work with clients to determine server processing and storage requirements. A business case is to be developed for procurement. ISB will work with the COMPASS team to facilitate access to ERDDAP, the Marine Institute's data server that provides a simple, consistent way to download subsets of scientific datasets in common file formats and make graphs and maps.

In Year 2-4 ISB will deploy specialist database and software development expertise to implement ERDDAP and enable greater access to global and regional oceanographic data sources such as the British Oceanographic Data Centre (BODC), and the Data Collection Framework for Fisheries (DCF). This will involve consolidating scattered data sources to facilitate data management, analysis and reporting, reducing risk to project delivery.

#### ➤ LIVESTOCK GENETICS DATA HUB

The Livestock Genetics Data Hub is aimed at allowing producers to more easily evaluate performance and make management decisions more confidently. AFBI Agriculture Branch submitted a business case for the Hub to DAERA in March 2017.

AFBI envisages a role for BovIS, the Bovine Information System developed in collaboration with ISB, which collates information from APHIS along with data from the agri-food industry. The IT Strategic Plan will be updated with Hub-specific requirements once this information becomes available.

### **ONLINE DECISION-SUPPORT TOOLS FOR AGRIFOOD INDUSTRY**

ISB will continue providing support for online decision-support tools and scientific database systems for the agri-food industry.

In Year 1 (17/18) ISB will, for example, update farm nutrient management calculators in compliance with the latest legislation.

In Year 2 ISB will intensify efforts to acquire technical skills and capabilities relevant to precision agriculture technology and the analysis and presentation of Big Data.

In Year 3 ISB aims to begin development of an AFBI Online Services Platform to host own-brand software applications and establish AFBI as the go-to portal for science-led eservices. It is intended to bid for a new eservices manager post to drive this initiative forward.

In Year 4 ISB will begin discussions regarding future support for the AHWNI Cattle Health Database as the current contract ends.

### **SCIENTIFIC SUPPORT**

ISB will continue to develop scalable database systems for the efficient management of scientific data and provide tailored reporting solutions for data extraction and analysis.

ISB will support plans to implement a modern centralised LIMS (laboratory information management system) platform to underpin AFBI's ability to carry out testing to required international standards and to achieve cost reduction and operational efficiencies.

ISB will continue to maintain and improve various existing LIMS to align with changing laboratory processes and new technologies. For example, integration of AFBI systems with NIFAIS (NI Food Animal Information System), DAERA's primary animal database for disease control.

### **CORPORATE SUPPORT**

ISB will continue to support and improve existing corporate information management systems to allow information to be shared across functional levels and facilitate management decisions.

ISB will support plans to introduce modern business management software by helping to integrate third-party software with internal systems where this is needed. This includes, for example, possible merging of the two existing ISO Quality Management Systems.

### **FUNDING**

The IT Strategic Plan is supported by annual capital and resource bids. Longer term requirements are facilitated by AFBI's forward planning processes – 4-year capital projection and 3-year resource projection.