

CPNI

Centre for the Protection
of National Infrastructure

THE INFORMATION MANAGEMENT FRAMEWORK:

A HIGH-LEVEL OVERVIEW



An increasing number of activities across a wide range of sectors require data and information sharing and aggregation. Further, consistent information is vital to draw data from multiple sectors and domains and to permit rapid evaluations, enhanced decision-taking and faster responses.

As a result, a formal mechanism to ensure that the right information can be made available at the right time, to the right people and that the quality of the information is known and understood, is required.

The Information Management Framework (IMF) provides the means by which consistent data and information can be communicated in a way that is effective, resilient and secure. The ability to share information in this way unlocks benefits such as the creation of smart cities and

the use of digital systems and technologies including AI/ machine learning, robotics, connected and autonomous assets and synthetic environments.

The technical part of the IMF comprises three main elements:

01. A Foundation Data Model

02. A Reference Data Library

03. An Integration Architecture

The **Foundation Data Model** (or ontology) and **Reference Data Library** define a common structure and meaning for information that is shared between organisations within and across sectors and domains. Together, therefore, they enable the consistent sharing and integration of information. **The Integration Architecture** comprises a combination of technologies that enables this sharing of data between databases and the systems that use them.

The Foundation Data Model, with common Reference Data that conforms to it, is designed to be extensible. This means that in building the components of the IMF, it is not necessary to first identify all the information that it will have to cover. Rather, the Foundation Data Model and Reference Data are able to expand as the scope expands.

When underpinned by methodologies and standards,

consistency across a very broad scope can be achieved, so if two people independently model the same thing, they get recognisably the same result.

However, developing the technical components of the IMF is not sufficient to achieve adoption and thereby create the secure, resilient information management and sharing on which digital engineering and digital technologies, projects and initiatives will increasingly rely to deliver maximum benefit.

The technical elements of the development of the IMF are therefore supported by work: establishing a quality management approach to information management; identifying and addressing perceived and actual cultural, procurement and legal blockers; and growing the information management skills and capabilities that will be needed now and in the future.





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