

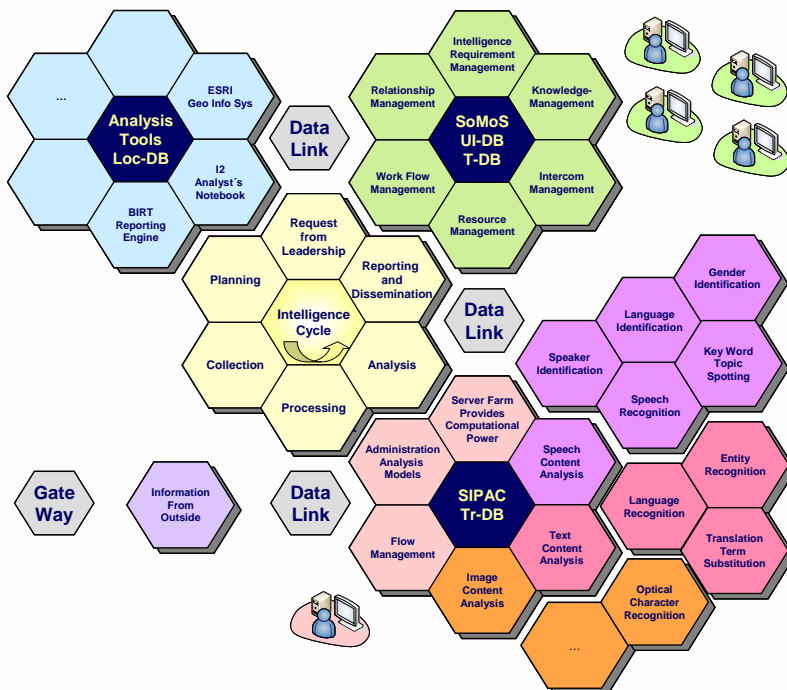


WIR VERSTEHEN DIE ZEICHEN DER ZEIT
KEEPING PACE WITH THE SIGNAL OF TIME



IFS-8000

Intelligence Fusion System Acquisition – Processing – Analysis



IFS-8000 is a flexible, scalable and modular IT system to support the processes for case-oriented aggregation of information to intelligence reports. Standard products for information processing and workflow design in the back office are configured following end users' requirements. Embedding of commercial solutions for processing and analysis of contents is optionally possible and provided. Project oriented processes for business management are part of the solution.

Overview

Task

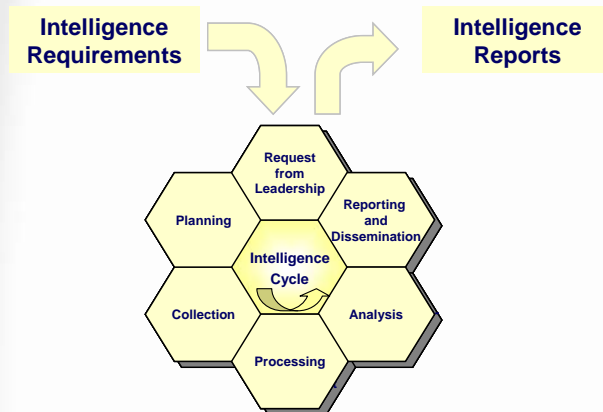
Case analyses, situation validation and the exploitation of decision basics usually require the consolidation of different relevant data, and the aggregation to reports. In the sovereign environment, these requirements are present in **security** oriented situation and evaluation centres. In industrial environment, tasks in the range of **business intelligence** define the requirements.

The number of data sources of different types is continuously increasing. Business specific and organisation specific information appear at different times and mostly without context. All report data are based on raw information that is fed into the processing system from different sources via different interfaces. Unstructured content and structured meta data are differentiated. The latter is managed by means of data bases.

The inspection of the data and information must flexibly follow the demand. Compressed visualisations are gained by a relevant data selection by suitable analysis and visualisation tools for the reports.

IFS-8000 provides different tools to support data and information processing and to improve the efficiency and quality of the analysis processes. Generation of meta data from unstructured images, texts and audio data is embedded in the workflows. Valuable results are archived for later evaluation.

Intelligence Cycle



IFS-8000 orients itself at the “**Intelligence Cycle**” describing the generally valid steps for evaluating information. This term was originally introduced in the military and intelligence service reconnaissance environment and is today also used in matters of business intelligence to describe a typical and commonly used workflow. All these processing steps are mapped to workflows and organised by a workflow management system.

Request from Leadership

The evaluation cycle starts with the request of the leadership to create a case based or request based report.

Planning

Several sub-steps result from the request prepared according to the requirements in a **planning** process. Workflows and a mission schedule for the available resources are the results.

Collection

Results of the planning process are requirements for the **collection** of suitable raw information as needed. Accordingly, the available data sources are used directly or requested to open dedicated data spaces for further processing.

Processing

The raw material is **processed**. If possible, additional meta data is extracted from the content, or new representations of the contents are elicited. Automatic processing and interactive processes are applied. Result of these steps is raw data.

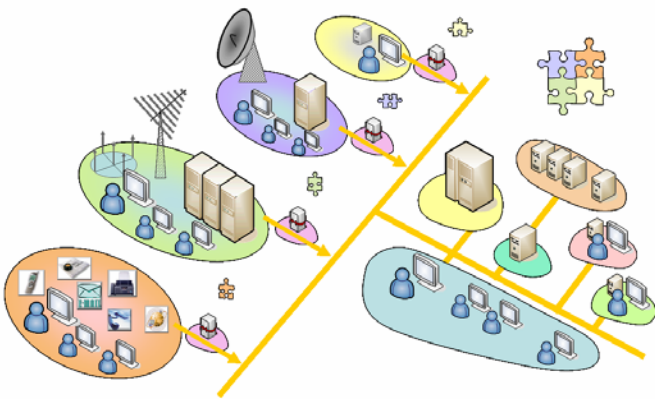
Analysis

Analysis is conducted by means of different tools that are applied according to the requirements and support the analysing operator in a suitable manner. Raw data are analyzed and evaluated. Result is an aggregated data set which is basis for the generation of reports.

Reporting and Dissemination

The results are issued as **reports** and disseminated to the requesting leadership.

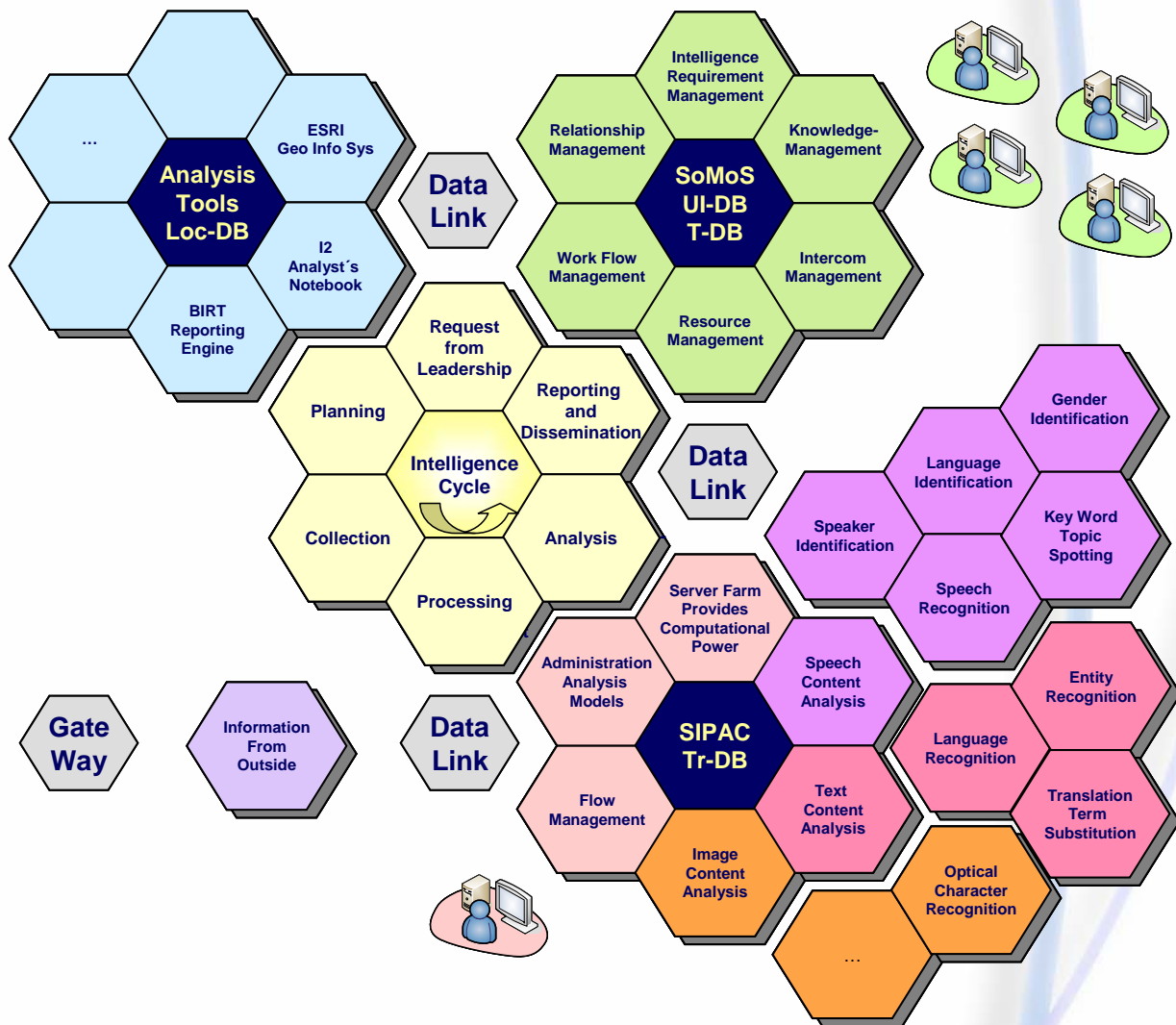
IFS-8000 System Architecture



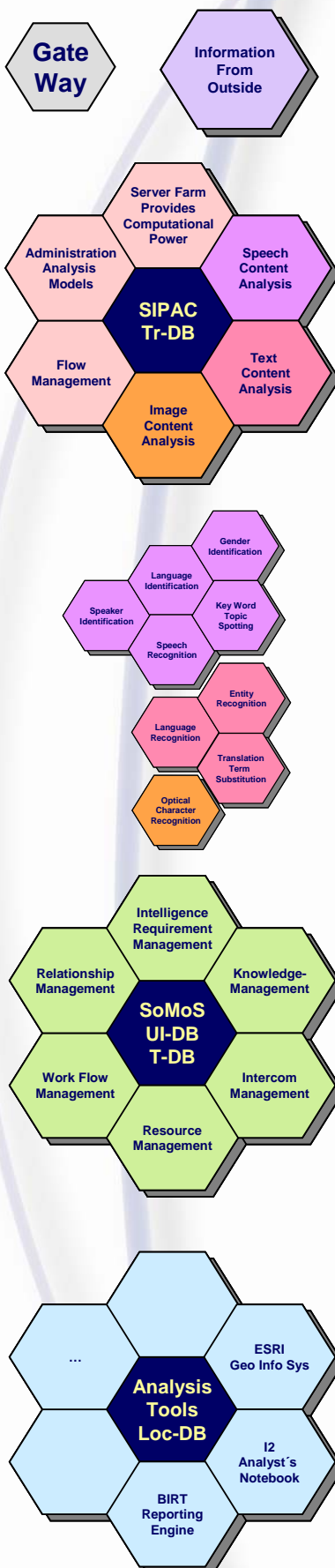
The figure gives an overview of the system components that are useful to understand the different software components and workflows. Information is fed into the system via the **gateway**. The **data storage** stores the data. A **server farm** provides the computing power for data processing as needed by the processed defined in the **SIPAC** product. **SOMOS** provides the web based user interfaces and the data base for data management. Several roles describe the tasks and the work place descriptions for users and evaluators using the system to fulfil their tasks.

In the following, the different components of the system are described and explained.

IFS-8000 has a modular design, scalability and the flexibility. A dedicated configuration will cover the specific requirements and demands. The following figure shows a configuration which is typical for security-oriented, sovereign applications. The modular system design is obvious, as it consists of distinct elements connected over mechanisms common in back office and available at the workplaces. Adjustments to the specific demands can be realized easily by selection and configuration of different software applications.



System Components



Data and information from different sources are fed into the system via a specially suited **gateway**. Data are stored in a standardised data base (UC-DB: Universal Collection Data Base) and are available for further processing.

SIPAC

Signal Intelligence Processing Analysis Component

SIPAC provides a powerful framework for processing the input data. Contents as well as structured meta data are processed and enhanced. Different methods and technologies are used and can be implemented in software.

SIPAC provides configuration and modular adding of functionalities by independent software applications, such as OCR methods to convert image information to text, text translation, or methods of pattern recognition in audio signals.

Customisation and test of the processing functions can be achieved by training in particular cases. Traceability guarantees a high quality level of these processes.

SIPAC can execute different processing functions. Contents and meta data of raw information are processed. Additional meta data are generated, or the contents of the data are displayed in different viewers.

Processing of unstructured data (image, text, audio) is a significant feature of IFS-8000. This is in contrast to other information processing systems used for business intelligence.

SOMOS

Support and Organization Machine for Operators and Specialists

SOMOS provides the user interface and different basic functions to be expected and needed in any back office structure. This includes: organisation of demands, a document archive, support of internal communications, resource management, management of workflows, and storage of the different case referred raw data within their relations.

A **Business Process Management System** (Intalio BPMS) based on the BPEL-2.0 standard allows for free definition and support of processes and workflows. SOMOS is built on the industry-standard Liferay Enterprise Portal Server, employing state-of-the-art Web-2.0 user interfaces and a wide range of open standards for data exchange.

Analysis and Reporting Tools

IFS-8000 allows for embedding different analysis tools to support data processing and evaluation at the workplaces of the operators and analysts.

Examples:

- ESRI
- I2
- BIRT
- Network charting tools
- Technical signal analysis tools
- Natural speech analysis tools (Nexidia)

Project Flow

Installing an IFS-8000 system has usually a deep impact on existing organizational structures and work flows. Similar to the introduction of ERP systems (Enterprise Resource Planning), a solution consists of many different components to be selected and configured according to the demands and requirements.

MEDAV provides a variety of standard software modules covering a wide range of functions. Especially the products SOMOS and SIPAC dominate the system and define the frame within the different specific elements and modules are embedded. SOMOS and SIPAC provide a wide range of configuration, modularity and scalability.

Software COTS
MEDAV

IFS-8000 is not a static product, it is rather characterised by continuous development. The roadmap of the development is also influenced by requirements from projects. The continuous development of available functions expands the functionality of the solution. Life cycle management is part of the concept.

Software Upgrades
MEDAV

MEDAV usually shares the costs for upgrades of this type. The ownership of the upgrades remains, therefore, at MEDAV, but usage is made available to customers by suitable licensing.

Usually, customer specific developments consider a small scale of project specific demands. MEDAV provides this either as service, or the customer provides the adaptations on his own responsibility as a contribution under consideration of the interface specifications.

Software Specific
MEDAV/Customer

The readjustment and reorganisation of the workflows require special consideration of the users of the system. Existing workflows need to be analysed and optimised, if possible.

Consulting
MEDAV

Users expect that their experience and expectations are taken into regard. New processes and workflows must be understood and accepted whenever a new solution is expected to be successful from the beginning.

It is important to plan carefully the introduction of new processes, similar to the introduction of ERP systems, and to accompany and conduct the process with certain, suitable solicitousness and sensitivity.

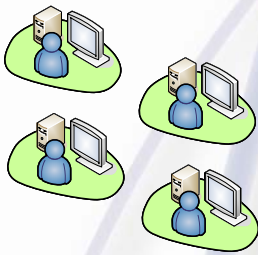
An important part is software contributed by specialised 3rd party manufacturers. These components are selected in regards of the special needs and requirements. A wide range of solutions is available within the MEDAV network. Additional software can be integrated for special requirements.

3rd Party
Software

IFS-8000 consists of different hardware components as a platform for different IT components. These are especially: gateway, data storage, SOMOS server, server farm and work place computers for the different system users. The components are selected according to the requirements and are contributed by proven suppliers of IT components. Service and maintenance are normally granted and conducted directly by the manufacturer.

3rd Party
Hardware

Scope of Application



IFS-8000 is a flexible, modular, and scalable platform to support back office processes. Special focus is processing of non-numeric information and data. In these regards, IFS-8000 is different from any other system for processing support.

ERP (Enterprise Resource Planning) is the business task to make most efficient use of the company resources (capital, equipment, personnel) for operational processes and thus to optimise the controlling of business processes.

IFS-8000 helps in planning, organizing and makes best use of the personnel resources of evaluation operators and analysts and their cognitive abilities in order to achieve and process information

Sovereign Task Forensic

The term **forensic** summarises the context in which criminal acts are systematically identified or excluded, analysed and reconstructed.

Sovereign Task Strategic Intelligence

Processing information from different sources is a sovereign task processed by different organisations within a state. The goal is the determination of security relevant information and situation reporting on a regular basis.

Industrial Task Business Intelligence

Business Intelligence has been popular since the mid 1990s and means processes for systematic analysis (collection, evaluation and representation) of data in electronic form. Goal is to gather knowledge allowing for better operative or strategic business decisions to be made. This is done by means of analytical concepts and IT systems evaluating data about the own business, the competitors or market trends. With this knowledge, enterprises can optimise their processes and make their customer relationships or deliverer relationships more profitable, reduce costs, minimise risks, and add value. The term is commonly used in the scope of business informatics.

Civil Task News/Press Agencies

News agencies and **press agencies** deliver news with information on today's events, and predefined news for mass media as newspapers or newscasts. Furthermore, PR agencies distribute information and press releases from press offices of enterprises and organisations. PR agencies and news agencies play a central role in the word wide information flow.

Notes

IFS-8000 consists of different components defining the complete solution by their composition. Interfaces and IT relevant aspects are considered and aligned in the projecting phase.

Interfaces

The performance of the system is determined and defined according to the requirements. According to this, the system components are selected and provided in hardware and software.

Performance

As a rule, applicable legal foundations in regards of export conditions are followed.

Export

SoMoS is a solution that was designed and developed for use in the organisation of medium-sized enterprises. The system manages information, internal communication, documents and partner address information, and project-referred organisation of business processes.

Export – SoMoS

There is no export restriction in regards of an export control list.

The regulatory framework in regards of export conditions for 3rd party software will be checked.

**Export –
Miscellaneous**

A request for an export license will be initialized if needed.

Export License



Sensors

Corporate Policy

Technology

... in the products, development and in the company management is state-of-the-art and represents a top level.

Quality

... in all divisions of our company is considered as the indispensable prerequisite for a risk-free and successful cooperation with our customers and business partners.

Signals

Position in the market

... is affected by extensive experience gained from signal and information processing. We are prepared best to face competition.

Classification

Product and engineering spectrum

... are comprehensive, complete and tailored to meet all requirements. As a single source supplier of solutions, we offer standard devices, systems and services.

Content

Employees

... form the roots of the company and render the services necessary for maintaining and expanding the technical basis and a trustful and fair cooperation.

Information

Growth

... on a stable technical and economical basis at home and abroad is our declared long-term goal.

Intelligence

Trust and fairness

... vis-à-vis our business partners and within the company are the basis of our business.

Compliance

... with excessive sensibility and compliance with German and international export regulations we act on a worldwide basis.