



SAAB



TRACK DATA FUSION ENGINE COMPILING YOUR AIR SITUATION PICTURE

Today's air operators are facing an increasing number of targets and sensors, leading to an overwhelming amount of data. The Track Data Fusion Engine (TDFE) combines the data into a clear and accurate air situation picture, thereby reducing operator workload and facilitating fast reaction and appropriate handling of the various situations occurring in the air environment.

The Track Data Fusion Engine is a high performance multisensor tracker and correlator. It effectively establishes one track for each target by fusing measurements from any mix of active and passive sensors together with tracks provided by other systems. It can easily be configured for use in various C4ISR contexts such as air operations and airborne early warning systems.

DESIGNED TO EXCEL

The TDFE includes three main data processing components: the Sensor Data Processing Module (SDPM), the Track Correlation and Fusion Module (TCFM), and the Identity Fusion Module (IDFM). A flexible architecture makes it possible to use these as stand-alone components if needed. A clear interface enables the TDFE to accept and process asynchronous measurements from sensors such as, but not limited to, primary and secondary radars, AIS, Electronic Support Measure (ESM) and Electronic Counter Measure (ECM) sensors. These sensors can either be ground based, airborne or shipborne. The TDFE may be installed as a single sensor tracker as well as a multisensor tracker. The scalable stand-alone design makes the TDFE easily customised and suitable for new state of the art C2 systems as well as legacy C2 systems. The straightforward design ensures an effortless integration with any kind of sensor and any surveillance system.

PERFORMANCE ABOVE ALL

The excellent performance of the TDFE is accomplished through several ingenious solutions. For example, there are patented techniques for compensating for systematic errors between sensors; for computation of bearing intersections and removal of false intersections; and for correlating and numbering tracks. All solutions contribute to very good track lifetimes, high accuracy, fast initiation and few false tracks. This is further improved by optimal usage of overlapping sensors.

VERSATILE AND ADAPTABLE

The TDFE can handle many different input types - plots, bearings, self-reported data, external tracks, and manual inputs. It can interface a data link processor, and it can perform identification following NATO standards. It is also suitable for training purposes as it can run in 'simulated' time.

The TDFE can be delivered either as software for integration, or as a stand-alone unit for interfacing legacy C2 systems. It can be scaled from a single sensor tracker up to handling more than 100 sensors. Many different formats and protocols can be used (the standard format is based on Protocol Buffers). The TDFE runs on Windows and Linux platforms, and can be arranged in Master / Hot standby configuration for redundancy.

There are several tools for monitoring status and setting parameters, for measuring the sensor and tracking performances and for tuning the tracker to customer's configuration.

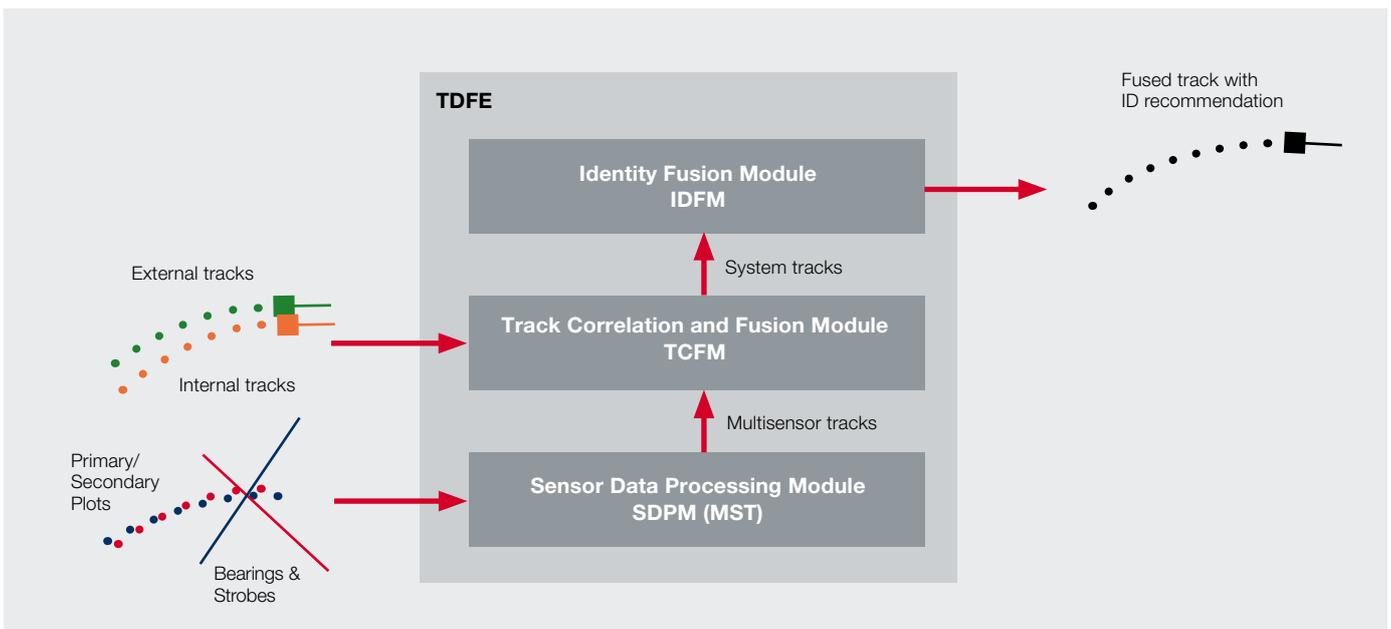
WELL PROVEN

Designing a multisensor fusion system is a highly complex undertaking, combining advanced scientific techniques, e.g. estimation theory, with experience in sensor properties, operator needs and implementational aspects. Saab has developed such systems for decades, and delivered systems world-wide in many different configurations and environments. As a result, the TDFE is a versatile, well proven product with outstanding performance and very high reliability and capacity.

Saab's TDFE is used by numerous customers world-wide. TDFE is unsurprisingly the core of Saabs own 9AIR TOCCS, 9AIR CRS and 9AIR Compact C2 air operation solutions. TDFE is in active operation in Sweden, UK, US, Far East and Middle East.

OTHER FUSION APPLICATIONS

In addition to the air surveillance domain, we offer single and multisensor trackers and track correlators for other uses, e.g. coastal surveillance, vessel traffic services and tracking of ballistic missiles. A networked version can also be offered. Complementary to tracking and correlation, we also offer solutions for Short Term Conflict Alert (STCA) and detection of anomalies and other situations of interest. The latter, the Situation Detector, is based both on machine learning and on rules.



Saab's **thinking edge** enables us to break new ground and deliver technically advanced products and solutions.

Specifications subject to change without notice