Prepare Ships

- EGNSS and RTK resilience positioning
- Real-time dynamic predictor based on machine learning
- Ship-to-ship /ship-to-shore communication (VDES)
- Geo-fencing in ECDIS for enhanced decision suppor

Prepare Ships

INCREASED SAFETY AND EFFICIENCY IN SHIPPING

Navigation decision support sub-system & HMI

Telko delivers the next generation ECDIS, providing Decision Support for the Crews:

- **Charts and charted information compatible to S100 standards**

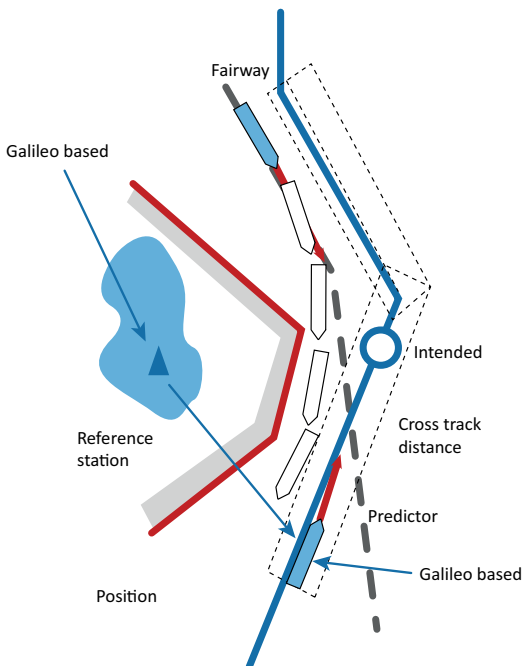- **Predictor Target presentation of other ships**
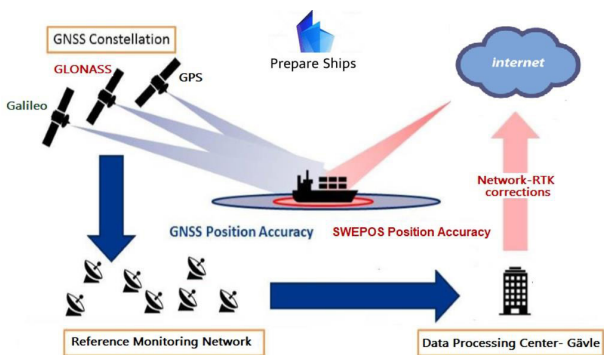
- **Integration of Prediction Module**

- **HMI with display and user functions**

- **Route Exchange Information**

GNSS Constellation
GLONASS
GPS
Galileo
Prepare Ships
internet
Network-RTK corrections
GNSS Position Accuracy
SWEPOS Position Accuracy
Reference Monitoring Network
Data Processing Center- Gävle

High Accuracy and
Integrity of Positioning

Prepare Ships System receives position, attitude and velocity data from the ANavS GNSS receiver using the Galileo Open Service.

The ANavS receiver use:

- **The signals from Galileo satellites**

- **Centimeter level positioning corrections (carrier phase) from Network-RTK (Virtual Reference Station technique) Supported by Lantmäteriet (SWEPOS)**

- **Information about the integrity of the RTK corrections**

- **ANavS provides a reliable positioning service using sensor fusion**

- **Galileos positioning features (PPP and HAS) are used including seamless handover of PPP and NRTK**

VDES Communication

The next generation SHIP2X Communication solution

VDES base station

VDES LEO satellite

VDES shipborne

Ship-to-ship communication

SAAB Transpondertech provides communication via VDES to ensure enhanced maritime safety (bandwith 32 times higher than AIS). Share information with other ships based on the VDES standard (IEC 2092-1)

Three new advanced applications following a new AIS-ASM/VDES exchange format:

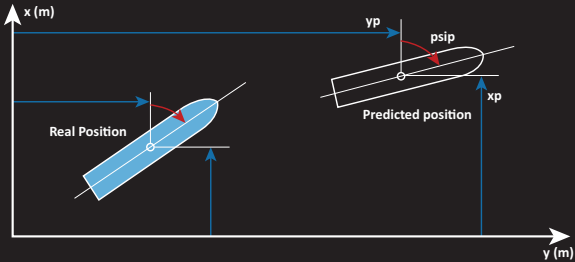- Ship predictions for a set time interval

- Network RTK corrections for high position accuracy

- Route information, i.e. the next set of waypoints and route leg parameters

The Dynamic
Motion Predictor

Machine learning

Algorithms ensures accuracy of predictions

Monitoring functions

Indicate to the operator the reliability of the information

Adaptive learning

Improves the model continuously

The Prepare Ships Project

THE PREPARE SHIPS PROJECT integrates a new precise positioning system based on the features of Galileo and EGNSS signals. It enables merchant ships to plan and execute safe ship passages of other vessels in challenging fairways by advanced decision support.

Reduces the risk for ship collisions

Provides decision-support in fairway navigation

Decreases environmental impact and emissions

Provides a cornerstone for future automated navigation.

Want to learn more? Visit:
www.prepare-ships.eu

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