Safetec has worked with quantitative collision risk analysis for 30 years and is market leading in the NCS and UKCS. Safetec offer a wide range of maritime risk assessments to clients worldwide:

- Vessel Traffic Survey (VTS),
- Collision Risk Assessments (CRA),
  - Fishing, passing and visiting vessel activity and risk,
  - Shuttle tanker operations, and
  - Decommissioning, W2W and floatel risk.
- Fairway improvements assessments,
- Traffic flow prognoses,
- Environmental exposure assessments,
- Mapping and categorisation of vessel traffic,
- Subsea installation vulnerability due to shipping, and
- Comparative risk assessment.

Safetec uses Automatic Identification System (AIS) data covering 10 years of data worldwide, providing high quality analysis of the ship traffic impact risks to your assets. Safetec is also a partner in a Joint Industry Project (JIP) to develop a new joint collision risk model.

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For 30 years, Safetec has been providing collision risk assessments. For collision risk assessment at sea, our experts have developed two principle software tools; the COAST tool for computer-assisted shipping traffic and the COLLIDE analysis program.

COAST is a tool on a GIS platform used for analysing a variety of data sources such as ground and satellite based AIS data, radar data, Lloyds port log data, manual traffic counts and information from operators. It was developed as a route database for use in UK waters, but was quickly expanded to include Norwegian waters. Today it is a tool used to analyse traffic worldwide.

The modelling tool COLLIDE calculates collision risk at a given offshore location based on data from COAST combined with environmental data and geometrical input. The collected data is used to identify and analyse patterns of ship traffic. We conduct studies, surveys and collision risk assessment for shipping, offshore installations, platforms, drilling rigs, FPSO, pipes, cables and offshore wind farms.

In the offshore industry COAST and COLLIDE have been used on the UK and Norwegian Continental Shelf for decades and are the industry standard for calculating vessel collision risk frequencies.

To be able to assess the overall risk, Safetec also has a computational model for collisions between supply vessels and offshore installations during loading operations. This model calculates collision risk for visiting vessels (mainly supply vessels) and vessels operating in the immediate vicinity of an installation or stationary object/ vessel. Since size and power of supply vessels increase, the impact of collisions even at low speeds also increases.

**Vessel Traffic Services**
- Assesses amount of traffic within a given location,
- Based on recent AIS data,
- Serves as input to collision analysis, and
- Used as part of consent application or as input to QRA.

**Vessel Traffic analysis – Heat Map**
- Heat map showing nautical miles or hours sailed,
- Show where vessels spend time (i.e. holding areas), and
- Areas with high density will have numerous vessels passing through or high residence times.

**Collide Model – Passing Vessels**
- Safetec’s industry leading COLLIDE used for collision risk analysis,
- COLLIDE model is based on years of research and experience, and
- Based on the vessel traffic survey, traffic density is calculated in form of a distance between passing traffic and the location.

**Collide Model – Visiting Vessels**
- COLLIDE assesses risk from vessels alongside installation,
- Accounts for drive-on/ drift-off of the visiting supply vessel,
- Includes operational conditions as input, and
- Accounts for specifications on the visiting supply vessels.

**Collide Model – Shuttle Tanker Offload**
- COLLIDE module used to assess risk contribution while performing offloading from visiting shuttle tanker, and
- Model accounts for shuttle tanker dimensions, operational and environmental conditions.