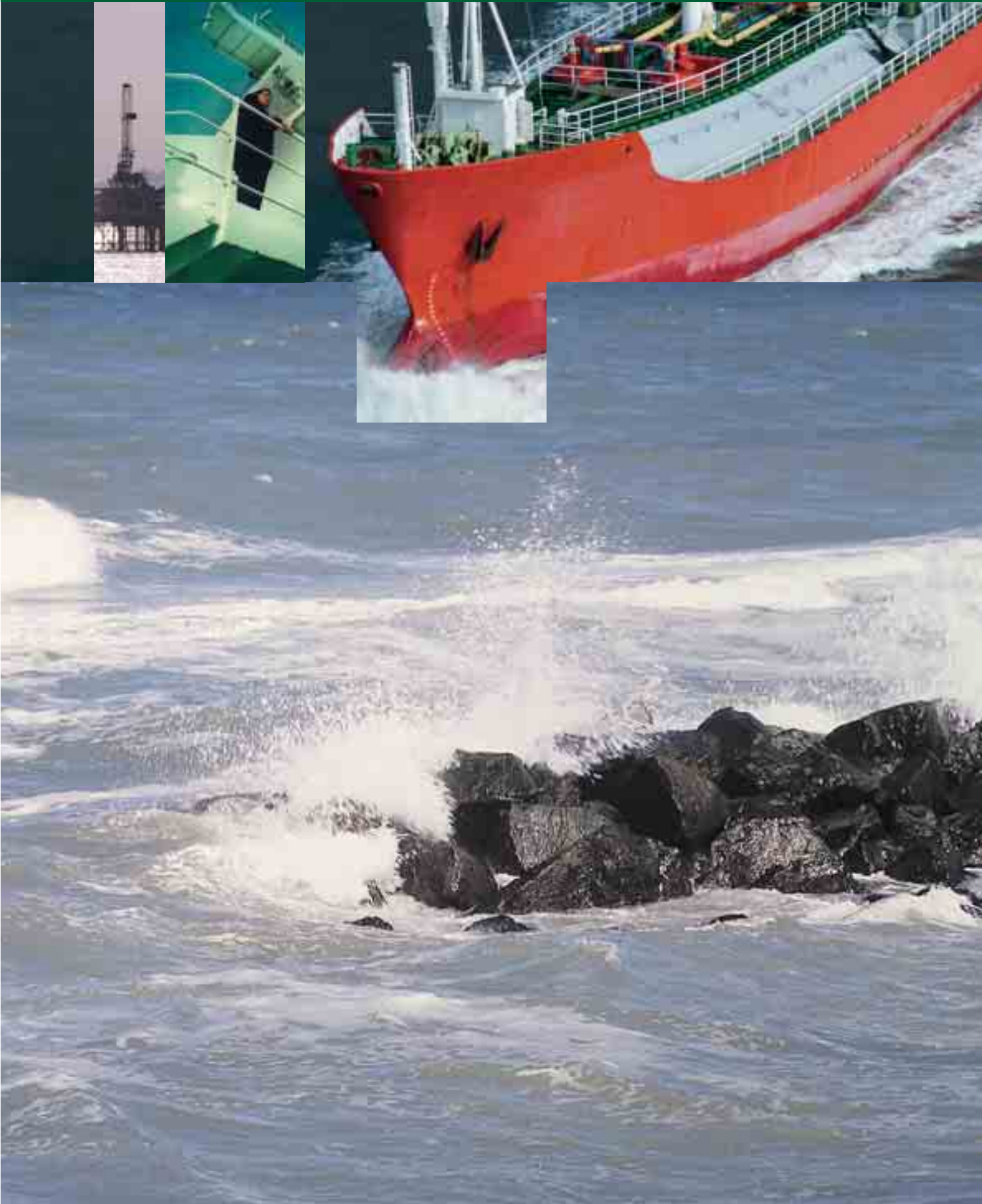
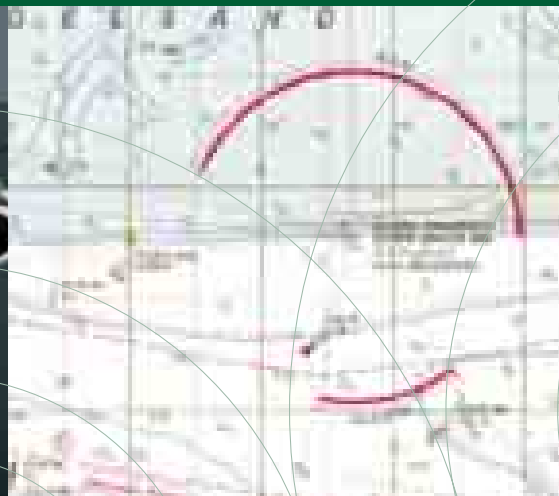


SAILOR UAIS1900





### Increased Safety at Sea

With the implementation of AIS on board all SOLAS vessels, new opportunities will be given for safe navigation and surveillance in dangerous or much frequented waters.

### Transmission within VHF Range

Data, such as safety related navigational information, can be received automatically from other AIS equipped vessels or base stations

within VHF range. Transmission of data is also done automatically unless the Listen-Only Mode is activated.

The fact that the AIS transponder communicates on a VHF datalink enables the system to “see around corners and obstacles” in narrow waters.

The technology used for this highly advanced automatic communication is SOTDMA (Self-Organized Time Division Multiple Access). It uses the extremely accurate standard time references supplied via GPS signals to synchronize data transmission from multiple AIS equipped vessels - thus preventing interference and loss of information. GPS provides both the universal time reference and the positioning data for each vessel.

### Safety Related Messages

The transponder can also be used to transmit text messages from one AIS system to another, or broadcast to all AIS systems within VHF range. This is particularly useful for broadcasting information on traffic, port conditions, pilots or safety matters.

### Listen-Only Mode

The transmitter of the SAILOR UAIS1900 can be switched off via the KDU, which disables the automatic transmission of AIS information. Other AIS equipped vessels can thus not identify the vessel. The transponder will however continue to receive AIS information from other vessels or base stations. This Listen-Only Mode is highly suitable for vessels operating in situations where anonymity is required, such as Coast Guard, Navy and environmental surveillance.



### Examples of data exchange

STATIC DATA	DYNAMIC DATA	VOYAGE-RELATED DATA
MMSI/IMO Number	Position	Draught
Call sign/Name	UTC	Cargo/Hazard type
Length/Beam	Course/COG	ETA/Destination
Type of ship	Speed/SOG	Route
GPS antenna location	Navigation Status	Number of passengers
	Heading	
	Rate of turn/ROT	



### SAILOR UAIS1900

The SAILOR UAIS1900 is a complex system with extensive flexibility that allows the system to interface with other on-board systems. There are three sensor ports for interfacing to navigational equipment.

Sensor 1 is for input. An external GPS/D-GPS is normally connected to this sensor and is the main source of position information. In case input from the external GPS/D-GPS equipment fails, the built-in GPS will automatically take over the transmission of the ship's position.

Sensors 2 and 3 are for input only. Sensor 2 is available for connection of additional instruments such as GYRO-compass, speed log and ROT sensors. The information from these sources will be included in the transmission to other AIS receivers, further enhancing the level of surveillance of traffic in the area. Differential information can be fed to the DGNSS port in order to obtain D-GPS position accuracy.

### SAILOR KDU1905

The SAILOR KDU1905 is designed to meet the IMO requirements for an easy-to-use Keyboard Display Unit. It is an obvious alternative to the various more advanced display systems to which the UAIS also can be connected for display purposes. The graphical display features 24 x 40 lines of data for presenting the name, range and bearing of the thirty nearest vessels. Additional information is available by scrolling or accessing the submenus.

Manual input of data into the UAIS transponder is primarily done through the SAILOR KDU1905. This could be information such as voyage-related data or transmission of text messages. The text message functionality can be used to send individual messages to other vessels – or for example to broadcast safety messages.

### SAILOR UAIS1900 Features:

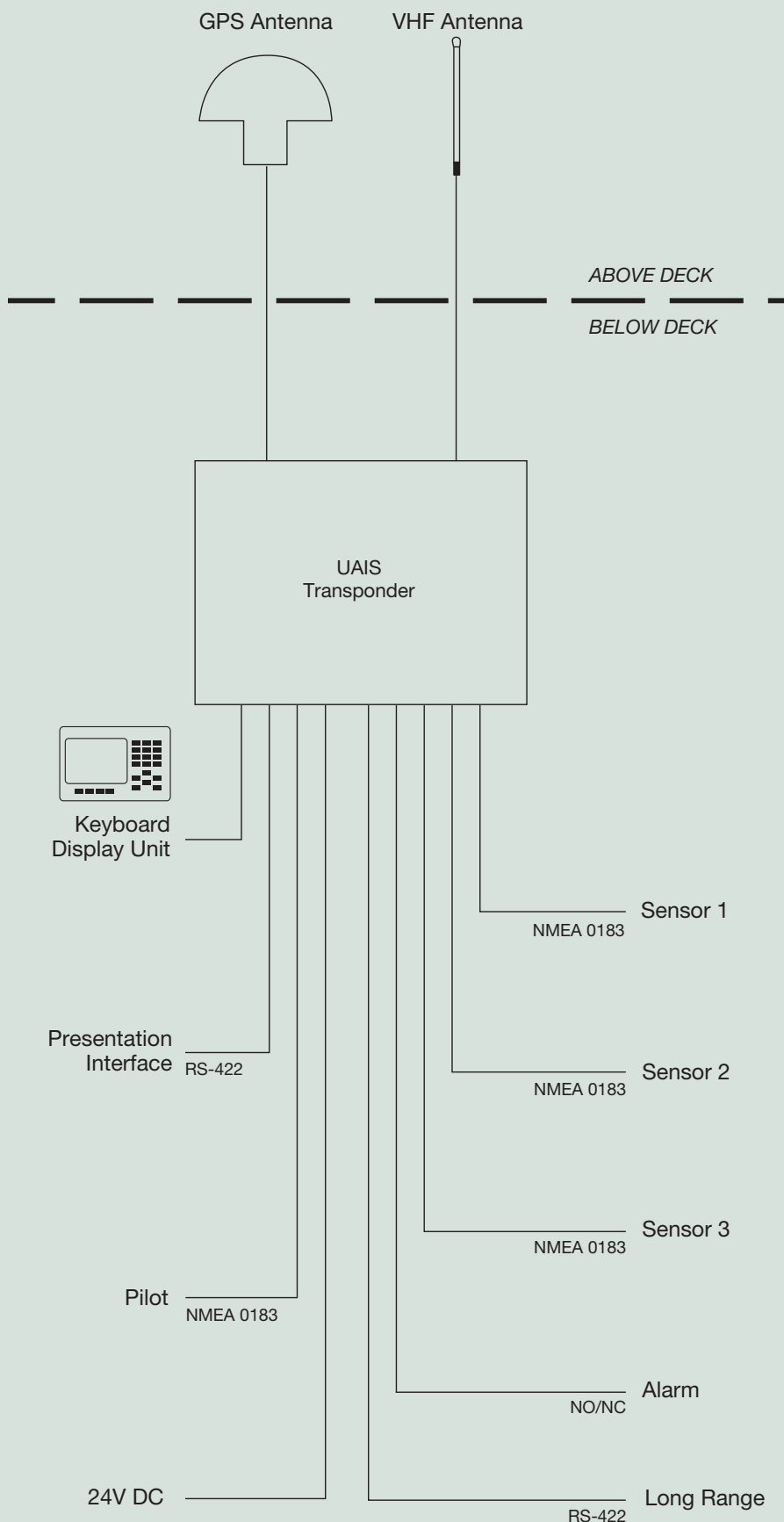
- Wheelmark Approved
- Designed for the maritime environment (IP66)
- Ruggedized and compact transponder
- Easy installation
- Designed for ship cabling
- Cable mounting directly on terminal board
- Easy service access
- Primary Display Port (Presentation Interface)
- Pilot Port
- Long Range Port
- Standard Interfaces
- Standard Service Interface with Windows and Linux based software

### SAILOR KDU1905 Features:

- Small and compact design
- Large 24 x 40 line graphical back-lit display
- Hard and soft keys
- Large buttons
- "Intuitive menu structure"
- Standard RS-422 interface
- Flush or desktop mounting

# Technical Specifications

Class A shipborne equipment of the Universal Automatic Identification System (UAIS), designed according to ITU.R M.1371-1, IEC 61993-2, IEC 61162-2, IEC 61162-1 and the IMO resolution MSC.74(69) Annex 3.



## SERVICES

GPS Position reporting rates in accordance with ITU.R M.1371.

## EXTERNAL I/F

NMEA 0183 version 3, IEC 61162-2 interfaces, some configurable to IEC 61162-1:

- RS-422 connection for Keyboard Display Unit
- RS-422 connection for Presentation Interface
- RS-422 connection for Pilot
- RS-422 connection for Sensors 1 to 3
- Connection of Long Range terminal

DGNSS (ITU 823-3):

- RS-422 connection for DGNSS correction

Alarm:

- Connection of external alarms

Antenna:

- Connection of VHF antenna
- Connection of GPS antenna

## TRANSMISSION

156.025 - 162.025 MHz (normal maritime tuning range for UAIS, 12.5 or 25 kHz channel spacing)  
Output power = 2 or 12.5 Watt (RF OUTPUT NOT EIRP)

## RECEPTION

156.025 - 162.025 MHz (normal maritime tuning range for UAIS, 12.5 or 25 kHz channel spacing)

## MODULATION

TX/RX 9.6 kbit/s GMSK

## POWER SUPPLY

Supply voltage: 24 Volt DC (+30% to -10%) per IEC 60945  
Type of supply: Switch mode with galvanic isolation  
Power consumption (current): 1.2A at 24 VDC, max 2.5A (momentary during transmission)

## ENVIRONMENT

Temperature range: -15°C to +55°C  
According to EMC IEC 60945  
Salt fog as defined in IEC 60945. VIBRATION per IEC 60945  
Designed for the maritime environment (IP66)

## DIMENSIONS AND WEIGHT

W x H x D : 330 mm x 180 mm x 230 mm  
Weight: 7 kg

Specifications subject to change without notice.



### SAILOR UAIS1900

The SAILOR UAIS1900 Class A shipborne UAIS transponder fully complies with the IMO SOLAS requirements. The system consists of the UAIS1900 Transponder and the SAILOR KDU1905 Display System. The UAIS1900 Transponder is based on two VHF datalink transceivers, an AIS transmitter, a computer, and a built-in GPS that interface with the navigational equipment on board. It is an advanced integrated system where the built-in 12-channel GPS is for synchronization purposes and back-up of the main GPS/D-GPS.

The two VHF receivers and the VHF transmitter are as standard tuned to the assigned AIS channels - 87 and 88. In areas where other channels are used, the channel 70 DSC receiver of the AIS transponder automatically switches to the local AIS frequencies. The DSC message to switch channels is broadcast by the local shore authorities.

### Display of Data

A display system is needed to present the information received from other AIS transponders. The SAILOR KDU1905 is able to display the thirty nearest vessels, which exceeds the minimum requirements from IMO of the three nearest vessels. The SAILOR UAIS1900 is a "single talk - multi listener" system, which enables the SAILOR KDU1905 to be complemented with more advanced display systems such as ECDIS, ARPA and ECS.

### Pilot Interface

In connection with harbour entry or similar where pilot supervision is required, the pilot port can be connected to mobile UAIS equipment. The pilot can thus connect his own mobile UAIS equipment and retrieve navigation information, e.g. like the information displayed on the SAILOR KDU1905.

### GPS and VHF Antennas

SAILOR UAIS1900 only requires connection to one VHF antenna and one GPS antenna. The transponder can receive both GPS and DGPS.

### UAIS - THE UNIVERSAL SAFETY STANDARD

The International Maritime Organization (IMO) has introduced new requirements for safety equipment on board. According to Resolution MSC.74 (69), Annex 3, all SOLAS vessels must install AIS transponders in the period from 2002 and 2004 according to the pre-defined deadlines for different categories of ships mentioned below.

IMO Requirements apply for:	Deadline
All newbuildings constructed on or after	July 1, 2002
All passenger ships	July 1, 2003
Tankers of all sizes	July 1, 2003*
Vessels of 50,000 and greater gross tonnage	July 1, 2004
All other vessels covered by SOLAS	December 31, 2004

\*Not later than the first survey for safety equipment on or after July 1, 2003

### Summary of US Regulations, based on the IMO requirements

The Maritime Transportation Security Act of 2002 applies for:  
 Self-propelled commercial vessels more than 65 ft  
 Passenger ships (size not yet decided)  
 Towing vessels more than 25 ft and more than 600 hp  
 Other vessels as may be determined by the Coast Guard through regulation.

#### Deadlines

All newbuildings built on or after	January 1, 2003
All SOLAS passenger ships and all tankers and towing vessels moving a tank vessel no later than	July 1, 2003
All other affected vessels no later than	December 1, 2004



A FRIEND IN NEED IS A FRIEND  
INDEED, the saying goes; and truly,  
SAILOR is committed to being there  
for you should a problem arise. What  
is more, we want to make sure that  
you are always on safe ground, even  
when you are on the open sea. That is  
why we operate under the maxim:  
"SAILOR – When safety counts".

With more than 50 years of experi-  
ence in the market, SAILOR is a true  
professional. We know that we have to

earn the loyalty of our customers.  
That is why nearly 15% of our annual  
turnover is reinvested in research and  
development and more than one  
employee in ten is engaged in finding  
solutions to the challenges of tomor-  
row.

Today, SAILOR provides a well-known  
range of communications products that  
includes everything from radios for  
the leisure market to equipment for  
fishing vessels and complete commu-

nications solutions for the deep sea  
sector. The SAILOR brand has become  
synonymous with reliable and  
technologically superior radio equip-  
ment – and covers everything from  
basic VHF units to state-of-the-art  
satellite systems, AIS (Automatic  
Identification System) and complete  
compact GMDSS solutions.



# SAILOR

When safety counts

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