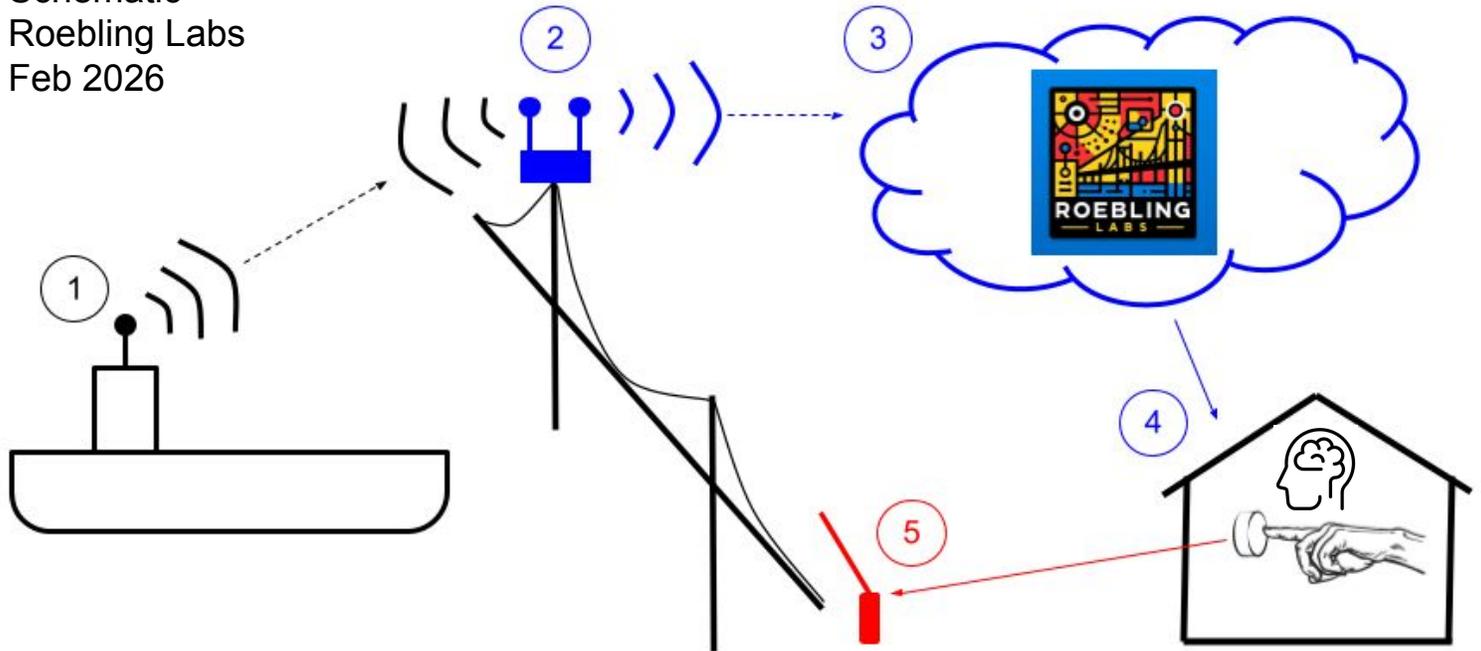Vessel Collision Warning System
Schematic
Roebling Labs
Feb 2026

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(1) Ship: Vessels send AIS signals of identification, size, position, speed, and heading, per U.S. Coast Guard requirements since 2002.

(2) Bridge: Roebling Labs' box receives AIS signals, filters, and sends relevant data to the cloud.

(3) Cloud: Roebling Labs' cloud receives the data in real-time, runs our threat assessment algorithm, and transmits alerts when risk scenarios are detected. Important data is stored to investigate incidents and improve algorithm performance.

(4) Operations Center: Staff receive Roebling Labs' alerts via browser-based dashboard, API software integration, SMS message, or phone.

(5) Traffic Gates & Marine Radio: Bridge operations staff evaluate and respond to alerts as appropriate to communicate with vessels and close and open traffic gates.

Note: Roebling Labs' system provides risk information on AIS-equipped vessels to support decisions by bridge operators.