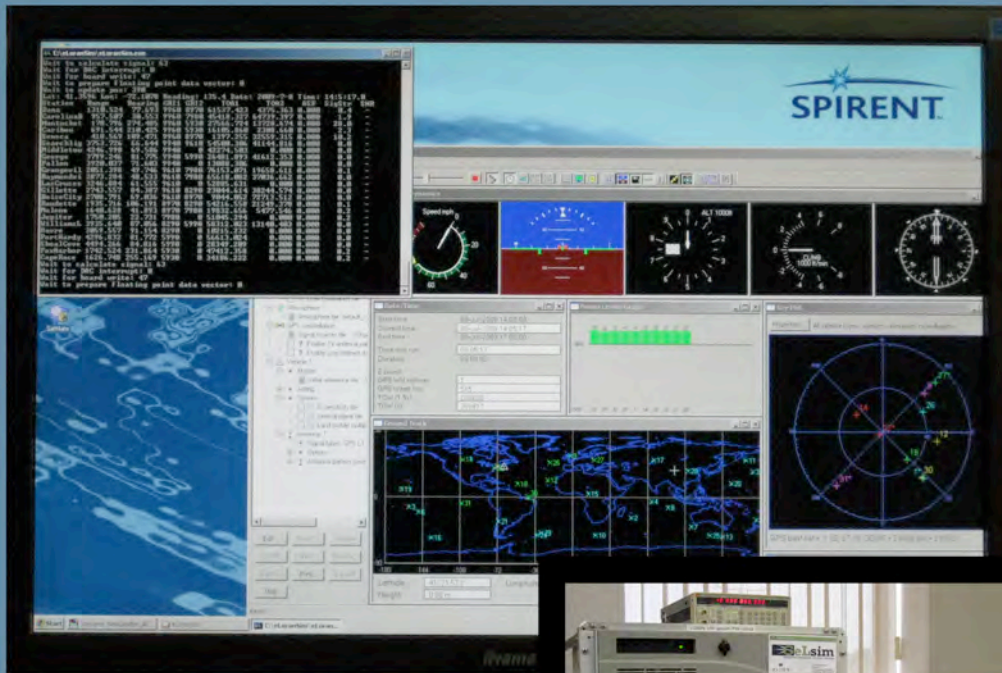


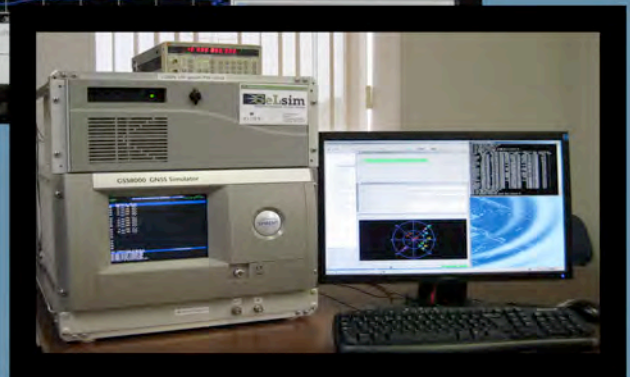


GeLsim

integrated information for total coverage



GeLsim is an integrated GNSS/eLoran signal simulator to enable complete signal testing of an integrated GNSS/eLoran receiver.



GeLsim 100

- Generates GNSS and eLoran signals synchronized in time/space
- Generates both GNSS and eLoran signals as a user receiver would see them
- Has a common scenario - generated on the GNSS simulator
- GNSS and eLoran are tied together with a common clock and have time scale linkage



ALION
SCIENCE AND TECHNOLOGY

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Robust and reliable eNavigation in the 21st Century requires the combination of GNSS and eLoran for a complete navigation solution. GNSS has been shown to be vulnerable to intentional and unintentional jamming and outages. As we near the peak of the next solar cycle, combined with the aging of the GPS satellite constellation, availability will get worse. The addition of eLoran capability to an integrated receiver provides the accuracy, reliability, availability, and continuity required for eNavigation.

eLoran is:

- A low-frequency, terrestrial radio system
- A PNT service; international in scope
- An independent complement to GNSS
- Meets aviation's NPA RNP 0.3, marine's HEA, and timing's Stratum 1 requirements
- Synchronized to UTC
- Includes communications component (9th pulse in the US and Eurofix in Europe)



GeLsim Specs:

GNSS Portion:

- Spirent GSS 8000
 - L1, L2, L5; DGPS; WAAS available
- Sophisticated scenario planning
- Various interference options

eLoran Portion:

- up to 37 Loran Signals (CONUS)
- Fully configurable, station locations, rates, emission delays, etc.
- Position-based ASFs and signal strengths
- Loran Data Channel (9th pulse, canned messages)
- E and H-field antenna outputs
- Skywave and atmospheric noise models
- Blink and dual-rate blanking
- PCI strobe on user selectable station

- On/Off selectable features include:
 - Which Loran Stations are transmitting
 - ASFs
 - Noise
 - Skywave
 - Blink
- Optional data write to file

Version 1.1 (to be released soon) will add:

- Signal variation models:
 - Pulse-to-pulse amplitude variation
 - Pulse transmission time jitter
 - Group time bias
- Additional valid LDC messages
- User changeable phase codes

Coming in Version 2.0 - EuroFix and European chains!