# Wireless Seismic NEWS

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## Wireless Seismic adds new clients while existing clients expand RT System 2

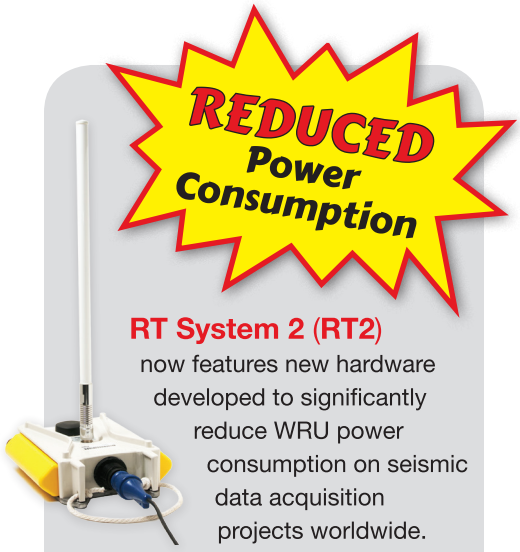
**Asian Oilfield Services Limited** (**AOSL**), based in Gurgaon, India, has expanded its RT System 2 seismic acquisition inventory to accommodate the increasing volume of surveys being acquired in the Indian market. This expansion provides AOSL with the capability to field up to 10 crews using RT System 2 and furthers the market adoption of the only scalable real-time cableless system into the Indian market.

**Hanshin Consultants Co., Ltd.**, based in Osaka, Japan, recently purchased an RT System 2 seismic data acquisition system to use in the geophysical and geological investigation for civil engineering and earthquake/volcanic/geological disaster mitigation.

**JGI, Inc.**, the Japanese survey and consulting company, has purchased an RT System 2 to use on a variety of projects, typified by non-resource surveys and academic research, presently in Japan, and for overseas surveys in the future. "We chose to purchase the RT System 2 in order to take advantage of its potential for future business expansion utilizing real-time, cableless systems," stated Satoshi Ohnishi, General Manager of JGI, "and we look forward to offering the RT System 2 to our clients to enable greater operational efficiencies on their projects."


The **University of Stavanger** (Norway) recently purchased RT System 2 because they wanted an affordable wireless seismic acquisition system to be used for research and teaching. "Considering that we are a small crew, we needed the system to be portable and easy to deploy and move in the field," stated Wiktor Weibull, Associate Professor, Institute for Petroleum Technology at the University of Stavanger. "We considered several providers, and after extensive due diligence, we ended up with the RT System 2 as being the best solution for us."

**Geopartner Sp z o.o.** (Krakow, Poland), **West Bay Geophysical** (Traverse City, Michigan, U.S.A.), and **Gallego Technic Geophysics** (Aurignac, France) have all expanded their RT System 2 seismic data acquisition systems to accommodate the increasing demand to use environmentally friendly cableless systems, while simultaneously providing real-time QC for their varied and challenging seismic acquisition projects. Geopartner acquired its original RT System 2 in June 2014 to expand its services to include seismic reflection surveys; West Bay originally purchased an RT System 2 in May 2013 for 2D and 3D vibroseis projects; and Gallego secured its first RT System 2 in March 2016 for 2D and 3D seismic surveys for geothermal prospecting, oil and mineral resources exploration, and civil construction (tunnels, metro stations, etc.) in Western Europe.




**RT System 2 (RT2)** now features new hardware developed to significantly reduce WRU power consumption on seismic data acquisition projects worldwide.

- Reduced power consumption means up to 50% fewer batteries on each crew, resulting in less capital expenditures and greater efficiencies.
- One fully charged standard 6-cell battery will now operate a WRU for 25+ days (assuming a 12-hour workday) and two fully charged standard 6-cell batteries for over 50 days.
- Backward compatible with a simple firmware update.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# Is Real Time really that important in cableless acquisition systems?

"Blind" nodal systems suffer from a significant amount of limitations when compared to **RT System 2**. Most of these limitations were never an issue with cabled systems and were essentially introduced by blind nodal systems as by-products of not being able to interact, in real time, with the ground electronics. **RT System 2** eliminates these obstacles by combining the security of real-time data acquisition of a cabled system with all the benefits of a cablefree system.

| | RT System 2... | A Nodal System... |
|---|---|---|
| POWER & BATTERIES | 1) Has smart batteries (the charging circuitry is in the battery) and a fuel gauge. | 1) Usually does not use smart batteries because there is no way to "interrogate" them from the central control system. |
| | 2) Smart batteries retain the history of each battery for analysis at any time. | 2) Battery history is very much an unknown quantity. |
| | 3) Can check on the status of each battery on the spread. | 3) Cannot check battery status, meaning a large spread runs a huge risk of battery depletion without the Observer being aware of the status. |
| | 4) Specially designed battery charger provides high-density charging with a small physical footprint. | 4) Requires expensive and bulky battery chargers (no smart batteries = more complex charging trailers). |
| MANAGEMENT & QC | 5) Immediately lets the Observer know if there is a problem on the spread. | 5) Cannot notify the Observer of any spread issues. Workers may stumble onto problems during in-person line checking. |
| | 6) Lets the Observer view or QC the seismic data while it is recording. | 6) Stores the recorded data on the nodes. Any QC data available is usually significantly delayed, even if there is a low bandwidth QC radio on the nodes. |
| | 7) Assures that the recorded data are safely stored at the central control system. | 7) Has a higher risk of theft of data (loss of nodes = loss of data). |
| | 8) Lets the Observer interactively manage the spread (e.g., run daily tests, check battery status, run geophone tests, change shooting parameters, etc.). | 8) Only stores the recorded data. |
| | 9) Allows the Observer to "put the spread to sleep," if needed, when unpredictable circumstances interfere with daily shooting. | 9) Has to be "over-spec'd" on battery capacity because of daily battery power consumption, whether there is shooting that day or not. |
| | 10) Makes rolling onto a large 3D spread a relatively easy task. | 10) Presents a huge challenge rolling onto a large 3D spread, since an accurate prediction of the shooting start date is needed to program the units. Poor estimates result in batteries consuming too much power before data acquisition commences or waiting for nodes to become "live" before shooting can start. |
| COLLECTION & TRANSCRIPTION | 11) Collects the recorded data in real time and saves it at the central recording system, where it can be transferred in SEG-Y or SEG-D output for processing. | 11) Requires manual collection of the seismic data (requires extra personnel, vehicles, etc.) by either using an expensive handheld device (within Bluetooth range of each node) or by bringing each node back to a central location for data downloading. |
| | | 12) Requires the collected seismic data to go through a complex transcription (sorting) process—primarily a manual process that is prone to errors. |
| | | 13) Requires 10%-15% extra nodal units (when compared to **RT System 2**) to compensate for the transcription "inventory." |
| | | 14) Creates a "Last Patch" overload on the transcription trailer—all (or most) of the nodes come back at the same time at the end of the project, which can tie up the ground electronics for weeks, making the equipment unavailable to go to the next project. |
| | | 15) Usually requires huge trailers and generators for the data transcription process. |

As the demand increases for higher channel count 3D surveys, to acquire more dense data, please consider that data download and transcription has been historically limited to less than 35,000 nodal channels.

**Will this process work at 100,000+ channels?**

wirelessSEISMIC 13100 Southwest Frwy., Suite 150 • Sugar Land, TX 77478 USA • (+1) 832.532.5080 • info@wirelessseismic.com • wirelessseismic.com