

Global Maritime Forum Article

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About the Author: Harry Sangree is a long-time industry innovator and the Founder and President of SeaFreight Labs (www.seafreightlabs.com), a leader in introducing crowdsolving to the seafreight industry.

“Let’s Bring Open Innovation to the Maritime Industry”

The 2019 Global Maritime Issues Monitor highlights a number of high-impact maritime issues. Many of these issues are technical in nature and require massive R&D investments to move quickly enough to make a meaningful impact.

Even if every member of the GMF (Global Maritime Forum) could immediately double their R&D staff, it is unlikely that this would solve these problems in a timely way because:

- No single company knows or can hire every “right” person to solve all their problems; and
- No individual has enough breadth of experience to solve every type of problem.

This makes intuitive sense. Even the largest company does not have enough skilled resources to concurrently move all their important projects forward. And the cutting-edge projects with the biggest impact can be the most challenging to traditional R&D teams. What’s needed is access to global on-demand expertise from people with diverse backgrounds to provide experts to supplement the current team.

This is the intellectual rationale to try ‘open innovation’ in the maritime industry. Open innovation assumes a landscape of abundant decentralized knowledge, with no single firm or team having access to all of it. It also assumes that it is now possible to efficiently and effectively leverage this knowledge on an on-demand basis to further one’s own agenda.

CROWDSOURCING OF INNOVATION: CROWD-SOLVING

A proven approach to get access to a universe of hundreds of thousands of skilled academics, professionals, researchers and scientists with widely diverse experiences is ‘Crowd-Solving’. An organization seeking solutions (called the ‘Seeker’) uses a well-defined challenge to bring a problem to a global ‘crowd’ of potential solvers. The Seeker can operate anonymously, if desired. A challenge is associated with a monetary prize ranging from US\$10,000 to millions of dollars and paid by Seekers for success, not work. The challenge is promoted to potential solvers for a pre-defined time period that can be as short as 90 days. After the challenge is closed, the submissions are evaluated for their value vis-à-vis the original problem statement. Prize money is awarded only when one or more solutions meet the original objectives. The process ends when the Solver exchanges their intellectual property for the Seeker’s prize money.

Challenges range from pure ideation (getting new fresh ideas) to solving distinct discrete problems. A well-defined challenge helps solvers determine whether they can submit a useful response and aides the evaluators in determining whether, and to whom, to award the prize money.

Solvers participate in challenges for one of 4 general reasons: good, glory, guts, or gold. A Solver may be interested in a challenge because they care about the cause that the challenge will advance (‘good’). Or, a Solver may be attracted by the importance of the problem and the fame they would obtain if they could solve

it ('glory'). Another motivation for solvers is the perceived difficulty of the problem and their personal interest in solving hard problems ('guts'). A final motivation is the prize associated with the challenge ('gold'). A prize can be monetary and/or non-monetary, with non-monetary prizes such as contacts, opportunities, and situations often being more important than money.

The most successful challenges attract interest from all over the world and from solvers in countless industries that are not the home industry of the seeker. A well-run challenge can receive over 100 submissions. An industry leader claims to have a 75% success rate on over 2,000 challenges, where the Seeker awarded prize money to a Solver in exchange for IP from the Solver.

EXAMPLES OF CROWD-SOLVING

LONGITUDE CHALLENGE. One of history's original challenges happened in the maritime world. Toward the end of the 17th century, Europe's seafaring nations were all unable to determine a ship's longitude when at sea. This was a serious problem for both commercial and military fleets and received attention at the highest levels. Britain ultimately solved the problem as a result of a formal challenge-based innovation process put into place via the Longitude Act of 1714. This act of Parliament clearly defined the objective, established intermediate milestones, specified prize money and created a judging capability, called the Board of Longitude.

The Longitude Act offered a series of rewards, rather than a single prize. The rewards increased in alignment with the accuracy achieved. The Grand Prize exceeded US\$1 million (in 2019 dollars). The initial Act was so successful that the same process was used for 114 years to solve a large number of other seafaring-related challenges.

OIL SPILL RECOVERY INSTITUTE. A modern example illustrating the power of a diverse group of solvers is found in a challenge run by the Oil Spill Recovery Institute. Their objective was to obtain a process to clean up over 120,000 liters of oil trapped in the Alaska coastline that remained in place almost 20 years after the Exxon Valdez spill. They needed a method to separate oil from water, specifically oil that had solidified into a viscous mass with frozen water in recovery barges.

The challenge offered a US\$20,000 prize. It attracted 53 submitted solutions. The winner had no previous experience in oil or recovery. His solution came from observing a construction technique and realizing that the OSRI problem was analogous to the problem of keeping concrete liquid during large pours. It turned out that widely-used concrete-vibration technology had a similar effect on oil as it did with concrete. The entire challenge process took only 90 days.

WALLENIOUS WIHELMSSEN. Another modern example is a challenge run by Wallenius Wilhelmsen. They organize and host annual contests to advance the adoption of solutions in the field of sustainability. Since 2013, the WW Orcele Award provides US\$100,000 to "the solution that can make logistic operations more sustainable by advancing high-efficiency or zero-emission technologies that are commercially viable." This program is run by OceanExchange.org in Florida, USA.

It has been over 300 years since the maritime industry used crowd-solving in a meaningful way. The technology to run a challenge has improved dramatically in that time and has recently been used successfully in other industries by some of the largest organizations in the world. Can 2020 be the year that our industry applies this powerful process to obtain dramatic results on our most important problems?