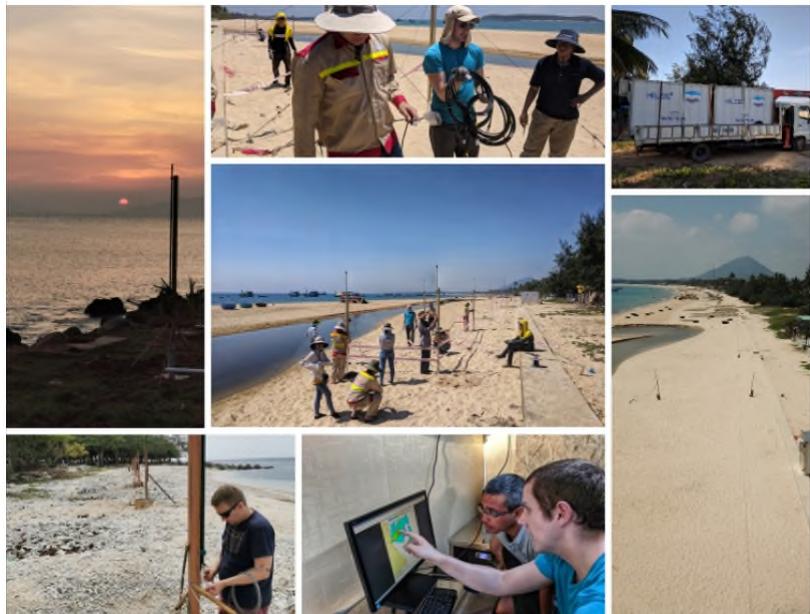


Helzel Messtechnik Newsletter 1-2020



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Jan Widera

33 years old
Physician and Physical
Oceanographer

Jan joined the Helzel team in
2016
Loves Linux
Fan of simulations & statistics

Special function at Helzel:
Software development
Oceanographic analysis
project management and
installations



***What is dual frequency?**

The choice of frequency is a fundamental parameter for your WERA system: The lower the frequency the longer the range the radar can achieve. But the higher the frequency the more information you can get about waves. To combine the advantages of both, the dual-frequency WERA operates alternating at two different frequencies by sharing a common receive array.



WERA 'To Go' !

Mobile WERA dual-frequency system installed at Phu Yen Bay, Vietnam

The Center for Environmental Fluid Dynamics (CEFD Hanoi) and Helzel Messtechnik deployed two mobile WERA systems in Vietnam at the beginning of 2019. Jan Widera, one of our project engineers, took over project responsibility.

Purpose of this exciting collaboration was to better prepare the country in case of upcoming environmental disasters. In 2016, Vietnam had to struggle with a huge chemistry disaster ending up in 277 tons of killed fish and destructions of the marine eco system. Fishers and Vietnamese population strongly suffered from this heavy tragedy.

How to better preserve and protect the country in the future?

The Vietnamese government successfully started a detailed investigation and several efforts to improve the situation. German experts deployed a Helzel WERA dual frequency radar system. With this kind of wave and drift sensing technology, the drift of non-marine fluids, such as oil or chemicals can be detected. The whole system, which can be used as a mobile "to go" system, can be quickly installed and de-installed at potential threatened coastal areas. Drift forecasts might help to take early precautions to better protect Vietnam's people and its unique eco system.

Project Hai Au

Finally, a scientific project has been initiated by the Ministry of Research. CEFD and Helzel Messtechnik started their collaboration in deploying two **dual frequency systems*** at Phu Yen Bay. Jan Widera and a student team deployed WERA with "instant purposes" as it was removed after a short period of testing time. Students from the environmental center have been trained from scratch by Jan. They finally succeeded in learning how to set up the whole system with respect to planning, commissioning and optimizing the WERA system on their own. Jan also transferred know-how in software routines, signal processing and oceanographic topics.

Later on, both systems have been running for several weeks at the Phu Yen Bay. Data have been evaluated with satisfying results. In the end, the entire systems were de-installed and carried back to Hanoi university – ready to be installed at potential critical coastal areas in the future!





Marek Swirgon

35 years old
Physician

Marek joined the Helzel team in 2015.
Loves oceanography

Special function at Helzel:
Software development,
project engineering &
installations



“How does WERA detect an approaching Tsunami?”

- The Tsunami wave travels very fast in the deep ocean
- It slows down at the continental shelf edge and generates a significant surface current pattern
- This current pattern can be detected in near real time with an array type WERA
- The data latency is about 3 min (2 min integration plus 1 min for processing and decision making)
- All time sensitive processing is carried out at the WERA site and just a very small data volume need to be transferred to the HQ



WERA Tsunami Detection System Indonesia

How to improve the Tsunami warning for Indonesia?

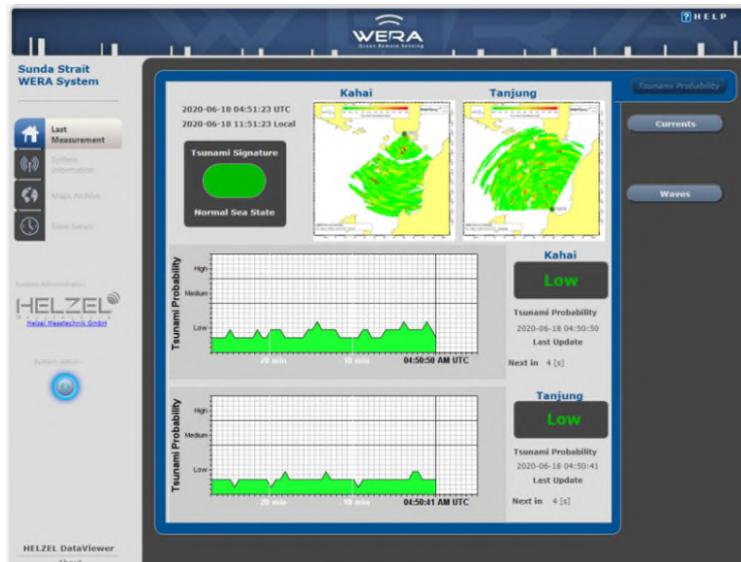
What happened?

We all remember pictures of Tsunamis on television. Countries around the “ring of fire” are mostly hit by these tremendous tragedies. Indonesia suffered from those incidents in 2018 two times and lost several hundred people.

Protection possible?

As a consequence, the Indonesian company Terrindo Bumi Raya and Helzel Messtechnik sponsored a project some months later. The Terrindo team, together with Matthias Kniephoff and Marek Swirgon from Helzel, deployed two WERA systems at both sides of the Sunda Strait: One system at the Java coast (Tanjung Legung) and one on the opposite site, at Sumatra near Kahai.

Marek, the project leader, commented on the techniques: “Two array type 16 MHz WERA systems with 8 and 12 antennas are used. These systems can monitor ocean surface currents in near real-time and at all-weather conditions up to 90 km offshore”. Tsunami induced surface currents are detectable on the continental shelf which reaches out at least 50 km in this area. The radar measures the Tsunami signature and can provide a warning within less than 2 minutes, resulting in a pre-warning time of about 20 minutes. The data are updated every 30 seconds and are displayed in form of a Tsunami Probability time series and as a signature map at the BMKG headquarter.



New team members



Moin!

My name is **KIRSTEN BOSTEDT**
I am working at
Helzel since April 2019.

My main responsibilities are:
export / import,
order management, customs and
management support.

kirsten.bostedt@helzel.com



Hello!

My name is **MICAELA RINN**
I am working at
Helzel since May 2020.

My main responsibilities are:
WERA partner support, marketing and
management support.

rinn@helzel.com



Hola!

My name is **ROBERTO GOMEZ**

I am working at Helzel since 2012.
From 2016 to 2019 in Mexico &
now I'm back in Germany.

My main responsibilities are:
software development,
project management and
data processing.

gomez@helzel.com



Oiá!

My name is **ALBERTO MANSOUR**
I am working at
Helzel since September 2019.

My main responsibilities are:
technical support

News

25th anniversary of Helzel Messtechnik GmbH



Kaltenkirchen, Germany 1995 – This was an exciting year; Matthias and I became parents for the first time, we built our house and in parallel Thomas and Matthias started up the HELZEL Messtechnik company. Then, in May '95 our first daughter was born and in June '95 our second "baby", the HELZEL Messtechnik GmbH, was born as well.

Now, 25 years later, this "baby" has grown up and our main product, the WERA system is part of many projects all over the world. Thomas, Matthias and our engineers travelled a lot to beautiful places and we – from the back-office and production - are sometimes a little bit jealous of all these travel experiences.

Over the years, we welcomed a lot of customers and partners at our company in Kaltenkirchen. It was always a pleasure to meet so many kind and inspiring people from different countries and cultures. We are thankful for the great cooperation with you, our customers and partners and we are proud of having our great HELZEL team.

Due to the Covid-19 pandemic, we are unfortunately not able to celebrate a big anniversary party as we did 5 years ago. We will celebrate with our team and we will postpone a bigger event to next year.

Stay healthy and be part of the WERA-family.

All the best for you, your families and colleagues, Martina Kniephoff



Upcoming exhibitions / conferences:

- Due to Covid-19, a lot of worldwide exhibitions have been cancelled or only held virtually
- Met Tech (9/2020) in Paris has just been postponed to October 2021
- The last remaining live attendance in 2020 is probably going to be the Oceanology International (OI) in London, December 1-3rd, 2020

Oceanology
international
2020 1-3 DEC 2020, LONDON EXCEL

