

There's a
good case for
satisfactory data!



TARKA-SYSTEMS provides client-specific, easy-to-use, data-acquisition systems for portable field applications.

(hardware, software and power supply combined in a single case.)

 **TARKA**
portable data systems

Henry Wijgerse

After 15 years of experience at the **Maritime Research Institute Netherlands (MARIN)** with developing rugged measurement systems, including hardware components and software programs, Henry Wijgerse has founded **TARKA-SYSTEMS**.

This step was taken after repeatedly noticing the lack of professional portable measurement equipment during field applications used by other companies and the request from the market for more client-specific tools and measurement equipment.

After graduating with a Bachelor degree in Science at the Higher Technical Education (HTS) in Eindhoven - The Netherlands in 1994, with Technical Computer Science and software programming as a main course, Henry Wijgerse started his career at the Maritime Research Institute Netherlands (MARIN).

The main activity at MARIN was the development of measurement equipment (hardware and software) for sea trials and measurements/research on ships and offshore constructions worldwide. In addition to the development of the equipment the practical use during sea trials and offshore measurements was also a significant part of the activities. This personal field experience guaranteed a more practical design of hardware and software.



In 1995 no temporary contracts were extended at MARIN so Henry Wijgerse fulfilled a 18 month period as a PLC-programmer and 18 months as first line software support engineer of safety systems on offshore installations.

In 1998 Henry Wijgerse returned to MARIN and continued his previous position. The job changed from junior assistant to lead instrumentation engineer, responsible for all hardware and software developments and equipment for the executing of measurements on ships and offshore constructions worldwide.

During the years the measurement systems have improved tremendously due to the development of hardware components and software tools and also due to higher demands from the market.

What started with a self-made-system (hardware and software) with 1 channel with 1 Hz sampling of a standard electrical unit changes into sophisticated systems with hundreds of signals with sample rates up to 100 KHz per channel based on all kinds of electrical and mechanical inputs and many different data-bus systems.

To meet these high data-acquisition demands professional hardware components and software tools have to be employed to replace the self-made solutions.

Although these professional components are available on the market, many companies executing field measurements, are not aware of the current possibilities and are still making their own measurement systems based on the knowledge and limitations of their internal system engineers.

With over 15 years of experience in the development of measurement equipment, TARKA-SYSTEMS can provide measurement solutions, with proven professional hardware components and software tools, for a client-specific total solution. Reliable equipment is the first step towards good measurements.



TARKA-SYSTEMS

The company TARKA-SYSTEMS was founded to provide client-specific, easy-to-use data-acquisition systems for portable field tools or complete field applications.

Companies executing field measurements often develop their own equipment while available products on the market do not meet their specific hardware and software requirements. Although these systems need to be qualified for harsh environments and constant travel around the world, the reliability and functionality of these systems often depends on the capabilities and limitations of the system designer.

Although every field system has its own specific requirements, all systems need to fulfill the following common specifications:

- Easy -to-use, integrated hardware and software
- Robust, portable solution in a rugged case to withstand travel and harsh environments.
- Battery powered.

Companies need to be able to rely on their measurement equipment as a solid tool. Self-built systems often result in unexpected hardware, software or integration problems. The result is often a system which does not cover the original specifications and/or has very high development costs.

Why TARKA-SYSTEMS

TARKA-SYSTEMS products are developed with the end-user in mind and with the benefit of professional knowledge of hardware components and software tools. The field or trouble-shooting engineer needs an easy-to-use reliable tool without the kinds of software and hardware problems which often arise when components of different suppliers are combined.



Goals of TARKA-SYSTEMS

- To provide client-specific, easy-to-use data-acquisition systems for portable field tools or complete field applications.
- To translate clients requirements into proven hardware units and easy-to-use and reliable software without any unnecessary overhead.
- To provide rugged single-case solutions with integrated data gathering, visualization and power supply.

Although TARKA-SYSTEMS has its own preferred hardware and software components, requests for other client-specific tools are always negotiable.

Application areas

Civil engineering, Ecological, Hydrographical, Structural monitoring, Mining, Drilling, Diving, Maritime Research, Archeology, Meteorology.

Client's responsibility

All data-acquisition systems require sensor data on the input side. The field sensor market is enormous and it is the client's responsibility to specify and calibrate their own sensors on the input side.

TARKA-SYSTEMS provides all measured data on the output side of the system. Post-processing of the measured data is client's responsibility. Run-time serial output of the measured data is possible for direct readout or for integration of the system in a larger measurement setup.

Advice/Assistance by TARKA-SYSTEMS

With 15 years of experience, TARKA-SYSTEMS can advice on measurement setups and related hardware and software components.

Additional to the advice, TARKA-SYSTEMS can assist during installation and startup of larger measurement systems.

Product examples



SUBVIEW 4-channel portable video case

The SUBVIEW portable video system can simultaneously capture, visualize and store submerged activities with four waterproof cameras on a battery powered video system, integrated in a single rugged travel case. With the integrated battery unit the system can run stand-alone for hours, which makes it perfectly suitable for use in areas / situations where no direct power is available.



Inspection of propeller and rudder of a ship.

The system was used by the Dutch Ministry of Defence for an introduction dive for wounded soldiers in 2010.



Observation of professional divers during training.



SUBVIEW free floating buoy for wireless video/audio/data transfer

The free floating buoy, with integrated battery supply and transmitter gives the opportunity of wireless video transfer of submerged inspections or observations. Additional light can also be powered from the buoy.

More details on the SUBVIEW products can be found on www.subview.nl



In 2010 TARKA-SYSTEMS introduced the 4-channel portable video system SUBVIEW to HYTECH. Due to the four synchronic video channels for gathering, visualisation and storing the SUBVIEW video case has a significant added value for our diving activities.

With the professional development of the SUBVIEW video case HYTECH also supported TARKA-SYSTEMS with the functional design of the free floating buoy for wireless audio/video/data transfer.

HYTECH is very pleased to have the products of TARKA-SYSTEMS in their product range.

Robbert de Bie,
Assistant director HYTECH
www.hytech.nl



Q-TRAVEL – portable data-acquisition

The need for portable data-acquisition systems has grown enormously over the last decades due to the request for more mobility and faster response of field engineers and troubleshoot engineers in all kind of application fields.



The Q-Travel portable data-acquisition system is a complete system for the acquisition of multiple electrical, thermal and mechanical quantities. With the integrated computer, display and power supply the Q-Travel is a single case solution for all kinds of field applications.

The system is based on the data-acquisition units from Gantner-Instruments (hardware) and on MLab of Stiegele-Datensysteme GmbH (software).



Freeboard / Inclination system

The Freeboard / Inclination system is a product out of the MOSS (Maritime Operations Survey Systems) product line. The system is based on an ultrasonic distance gauge and an inclination sensor. The handheld unit integrates the inclination sensor, the battery supply, the micro-controller and a frontplate with touch-buttons and display.

In the field of salvage the system is used to retrieve freeboards around a grounded vessel to determine the grounded draughts. With the ultrasonic distance gauge in conjunction with the inclinometer the vessels structural deflections and distortions are determined.

With the multiple universal inputs different configurations of ultra sonic, inclination or other sensors can be created for a wide range of other applications. Measurements can be stored internally for retrieval and evaluation on a computer afterwards.

Wireless inclination system (wins)

On an urgent request from a salvage company, a wireless inclination system was produced and installed on a vessel in South Africa within a week from the first call. The system was mounted on the grounded vessel to transmit the list angle to the site-office during the whole salvage operation.



Data-Acquisition Hardware

Although TARKA-SYSTEMS is not committed to any data-acquisition hardware, and can also provide systems and tools based on the client's hardware, the preferred data-acquisition units for gathering data are the units from Gantner-Instruments.

Founded in 1982, Gantner-Instruments is a specialist in flexible and distributed measurement and I/O systems. Gantner-Instruments has delivered innovative I/O solutions for more than 25 years for the acquisition of the most common electrical, thermal and mechanical quantities as shown in the adjacent picture.



The products exhibit high performance and flexibility and they remain simple to operate and easy to understand, even in complex applications.

The TARKA-SYSTEMS tools or complete systems can be built with the OEM models of the Gantner-Instruments units as well as the complete units, depending on client's specification.



A complete client-specific measurement system integrated in a single rugged travel case is a very good concept. Gantner-Instruments therefore requested TARKA-SYSTEMS to produce a prototype based on their data-acquisitions units. This prototype was presented on our international sales meeting at Gantner-Instruments in Schruns - Austria, and was received very well by the worldwide resellers.

We are very pleased that TARKA-SYSTEMS selected the Gantner units for the data-acquisition and strongly believe that with the years of experience in the use of these units, together with the personal field experience of Henry Wijgerse, TARKA-SYSTEMS is capable of making client-specific products with very good market opportunities.

From the point of Gantner-Instruments we wish TARKA-SYSTEMS all the best to find its way into the market and we will fully support this within our possibilities.

Werner Ganahl, CEO Gantner-Instruments.
www.gantner-instruments.com





Data-Acquisition Software

STIEGELE Datensysteme GmbH was founded in 1984 and develops state-of-the-art software for the latest measurement and testing technology for the automotive, aerospace, test engineering, and research industries.

MicroLab (MLab) is a universal data-acquisition and control system. It is capable of simultaneously logging measurement data from different data sources.

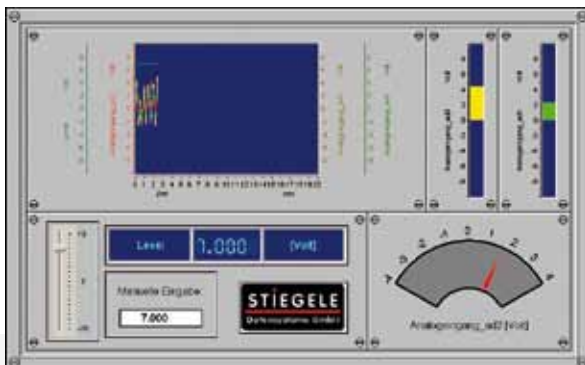
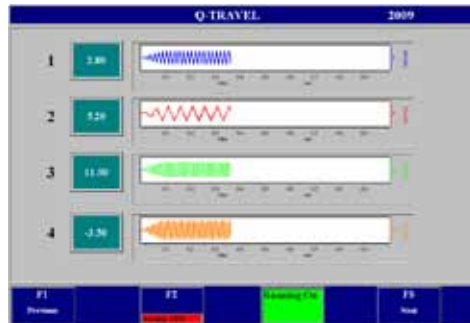
The software acquires, processes, visualizes, and stores data in real time. A multitude of action modules makes it easy to individually and flexibly adapt any measurement tasks.

A small summary of data sources:

- Analog
- Digital
- Serial
- Ethernet
- Bus systems
- Gantner units
- many others



With the possibility to gather data from all common data sources, including the Gantner-Instruments units, and presenting the data in an easy-to-use GUI (Graphical User Interface) the products of TARKA-SYSTEMS can be made client specific without any unnecessary overhead.



The Q-Travel is an example of all components combined into a total solution

- Portable
- Data gathering
- Data presentation
- Data storing
- Easy-to-use
- Battery-powered



The software from Stiegele Datensysteme GmbH is specialised for complete control, monitoring and documentation in test rig applications. When MARIN started to use MLab for onboard measurements for the maritime industry, a different approach and philosophy related to our test rig applications was noticed. With the specialised information of sensor types, protocols and comments we received from Henry Wijgerse, we were able to extend and improve MLab to a more complete and universal measurement program suitable for all kind of field applications.

We are pleased that TARKA-SYSTEMS is using MLab and wish TARKA-SYSTEMS all the best for the future.

Stefan Stiegele, Director STIEGELE Datensysteme GmbH
www.stiegele.eu



United States Coast Guard

In 2008 the United States Coast Guard (USCG) installed an extended measurement system on one of their new cutters, the USCGC BERTHOLF. This system is a permanent static system which is installed for a period of many years. This system includes over two hundred measurements points, cabling, junction boxes and a main computer system to collect, present and store all data with an overall sample rate of 200 samples per second.

The on-site installation of this extended measurement system by MARIN was carried out and supervised by Mr. Wijgerse. During trials it is rather common that sensors fail or data drops out. During the two week period that the trials were conducted the system was up and running full time with no data loss or drop out.

The setup of the total measurement system consisted of two separate parts, the hardware installation and the software programming. Both of these jobs were performed in a highly professional manner by Mr. Wijgerse.



Mr. Wijgerse has the required expertise and professional demeanour to complete any type of professional data-acquisition system, a static solution for permanent measurements or a portable solution for field engineers.

I have always found Mr. Wijgerse to be dedicated, enthusiastic, and a true pleasure to work with and highly recommend him for any job that you may require. If you have any questions or wish to speak further about Mr. Wijgerse, please feel free to call me at 410-762-6709.

Rubin Sheinberg
Chief, Naval Architecture & Marine
Engineering Branch
U. S. Coast Guard

Still looking for a system satisfying your requirements?