

International Marine and Dredging Consultants (IMDC) is an engineering and consultancy company specialized in a vast range of water related projects. Our highly qualified staff offers advice based on recent research results of leading universities and research institutes and hands-on experience acquired throughout the years.

Hydrotools is presented in this product sheet.

More information can be found on our website: www.imdc.be

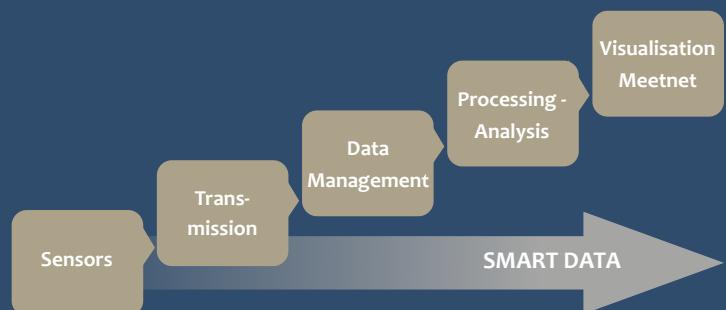
Hydrotools: Internet-of-Things for Water Management

Water managers cannot always be present on site. That is why IMDC is developing Hydrotools, measuring applications that make the water manager's job easier. Rather than

going to the site, they can monitor the situation in real time from their office. This allows them to maintain an overview and be informed of critical situations sooner.

Internet-of-Things

The Internet of Things (IoT) is the collective name for smart sensors and measuring devices that are linked to each other and to cloud services, enabling all kinds of new applications: more sustainable, more efficient and cheaper. The Internet of Things offers the possibility to quickly build a low-maintenance sensor network, collect data in real time and visualize it in clear dashboards.



Sensors

IMDC uses IoT sensors to monitor a wide range of parameters:

- water level,
- precipitation,
- water quality,
- camera images,
- sediment concentrations,
- salinity, etc.

Depending on the customer's needs, other sensors can be installed or developed in collaboration with our technical partners.



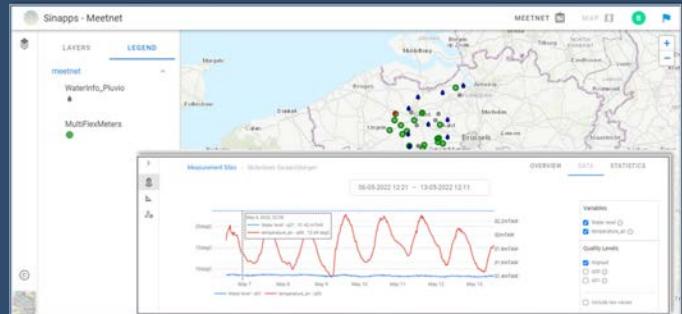
Transmission

Depending on the situation on site and the requirements in terms of battery life and data volume, various methods can be used to transmit data, including Wi-Fi, 3/4G, Sigfox, LoRaWan and NB-IoT. This will result in lower maintenance costs.



Data management, analysis and visualisation

Hydrotools measurements are monitored, managed and validated offline or in real time via the specially developed web application "Meetnet". This application also allows existing sensors to be implemented, measurement data to be combined with other data sources, and alarm functionalities to be added (Leaflet Synapps/Meetnet). Other data sources can include: own measurement data, data from WaterInfo.be, etc. Manual measurement data can also be added via a handy MeetApp.



Hydrotools - Applications

The applications of real-time IoT measurements are very broad. IMDC has many years of experience in this field. Hydrotools have been used in various projects for the following purposes:

- Monitoring the functioning of Controlled Flood Areas (CFAs);
- Groundwater management via a sensor network in monitoring wells;
- Surface water management (e.g. pond levels, etc.);
- Supporting climate adaptation policy via sensor networks;
- Monitoring local drainage systems and limiting flooding;
- Supporting hydrological and hydraulic models of river basins;
- Groundwater measurements for hydraulic engineering infrastructure projects.



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