



SYSTEMATIC OBSERVATIONS FINANCING FACILITY

WEATHER AND CLIMATE DATA FOR RESILIENCE



**A new way of financing
surface-based observations**

PPP & Data as a Service

Deploying and managed infrastructure is not a core competency of NMHS' or most government entities. PPP for managed infrastructure is not a new concept, see transport (roads / tunnels) for example, government focused on core competencies, known* income allows private sector to effectively manage funding & risk

What is data as a service for surface observation networks

- Private sector owns and operates system / network
- Delivering data in format defined by NMHS and optional additional services and tools
- SLA contract for data quality and availability
- Ownership and usage rights of data by NMHS define commercial model and what makes financial sense for private sector
- Total cost of ownership does not significantly reduce with DaaS, however, cost is spread over 5- or 10-year period (OPEX instead of CAPEX) with private sector financing and assuming risk, enabling NMHS to focus on core priorities.
- Cost recovery models such as revenue share partnerships would further reduce TCO
- Existing PPE in HydroMet are possible due to various revenue streams for observation data

Keys to Success

- Maintenance, calibration, data management and ongoing support in partnership with manufacturers and local companies
- TBD siting, security and 1st support level > effective collaboration can drive down costs
- Challenge private sector to meet SOFF needs & local needs - partnership between private sector organizations will enable success



Models for SOFF implementation

1. Fully State / NHMS owned & operated
2. State/NHMS owned – Private sector operated
3. State / NHMS – Private sector concession
4. Fully Private / Private sector owned & operated

4. Fully private / PP owned & operated

BOOT (Built – Own - Operate – Transfer data) contract with NHMS
(NZ / SPIRE / Panasonic / NETATMO solution . . .)

- Design – Built - Maintenance: duty of contractor
- Data ownership by contractor (concession for NHMS and public)
- Further services included and foreseen
- Country tailored agreements necessary

➤Pro: Result based funding implemented in a straightforward way

➤Con: Data form and format might be different, need for adaptation

Mark Tadross (Unverified) 9/9 4:24 PM

MT

Could you give a rough idea of the relative costs for the NHMS in each business model ? Model 4 looks great if the costs are small, which would be needed in least developed countries etc - unless SOFF funds it.



Arati Belle (Unverified) 9/9 4:29 PM

AB

The costs questions is very important - which of these models could work in low income countries and what would be the enabling conditions that are needed to make it work.

About DTN

Our solutions combine rich data, advanced modeling, and AI to deliver clear, reliable insights across the agriculture, energy, and weather sectors. We aim to be long-term partners to the companies that feed, fuel, and protect the world—helping them navigate complexity and make confident decisions.



Supporting Ag businesses with timely insights, market data, and agronomic analytics. From producers to retailers, our solutions help drive smarter, more informed decisions.



Combining data and market intelligence, backed by expert analysts, to help fuel industry customers make confident, profitable decisions—whether buying, selling, transporting, storing, or delivering refined fuels.



Delivering value across HydroMet value chain — from network deployment, through data management DTN offers expert insights to help customers manage weather risks before, during, and after events.



DTN Customers are supported by a dedicated team of +1,200 employees, including +180 skilled meteorologists located in our offices across the United States, Australia, Philippines, the Netherlands, Spain, Switzerland and United Kingdom

About Me

- Not a meteorologist, scientist or engineer, privileged to work with many excellent professionals from each field every day
- HMEI Executive Council Finance & Budget Oversight
- Business leader in private HydroMet industry for over 10 years with strong financial background
- General Manager for DTN's Weather & Environmental sector:
 - Specializes in partnering with NMHS', ANSP's and CAA's, to deploy and manage surface observation networks and aviation weather systems with projects delivered in over 100 countries
 - To deliver solutions DTN partners with the leading sensor manufacturers, as well as data and software providers from across the industry



HydroMeteorological and Environmental Industry
One Globe, One Industry, One Voice.
FORMAL WORKING ARRANGEMENT WITH WMO



TOM SMITH
Councilor responsible for Budget & Opex Oversight

TERM: 2021-2025
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Tom is General Manager of the Weather Systems division at DTN and is based in Madrid, Spain.

He joined DTN in 2010 and has transitioned through various roles in finance, operations & strategy, with a deep experience across the HydroMet value chain, from deploying surface observation systems and weather and environmental data management for government to SaaS solutions for diverse industries.

Results focused and highly driven, the experience of working in various countries and industries has given Tom a deep understanding of what it takes to succeed when doing business internationally.

In 2021 Tom was elected to the HMEI council for OPEX and budget oversight.



Data as a Service: EU Weather Station Network

MeteoSwiss & DTN / MeteoGroup



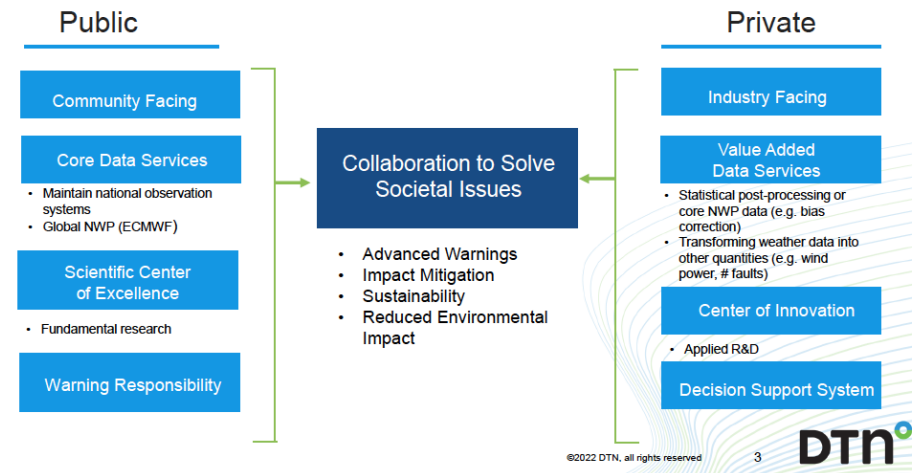
What: DTN, formerly MeteoGroup, has been operating automatic weather station network for over 20 years: largest private weather station network in Europe with over 900 stations and unique collaborative operator model where participants receive station data and forecasts while providing first line of maintenance support

How: following devastating storms and flooding in 2005 the view of MeteoSwiss changed from seeing the private sector as a threat to seeing the opportunity partnership could bring. Since 2011 MeteoSwiss has been leveraging data from the DTN network to help with severe weather warnings, modelling and research

Benefits:

- Public: access to more data to help deliver on mission of delivering warnings to protect the public , advancing scientific research and enabling industry
- Private: data from network leveraged to deliver decision support services to industry (Logistics, Renewables, Utilities, etc) and consumers

Weather and Climate Services





Data as a Service: Total Lightning Network

Bureau of Meteorology & DTN / Weatherzone



The Bureau
of Meteorology



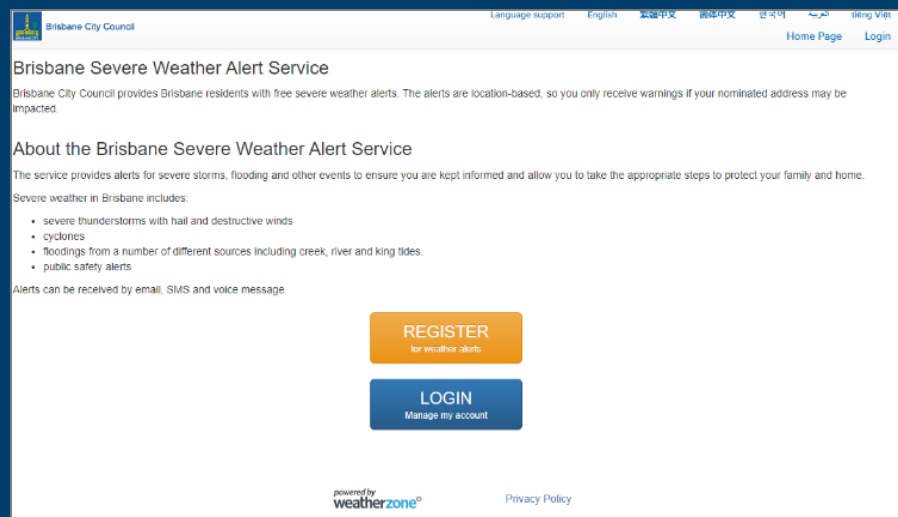
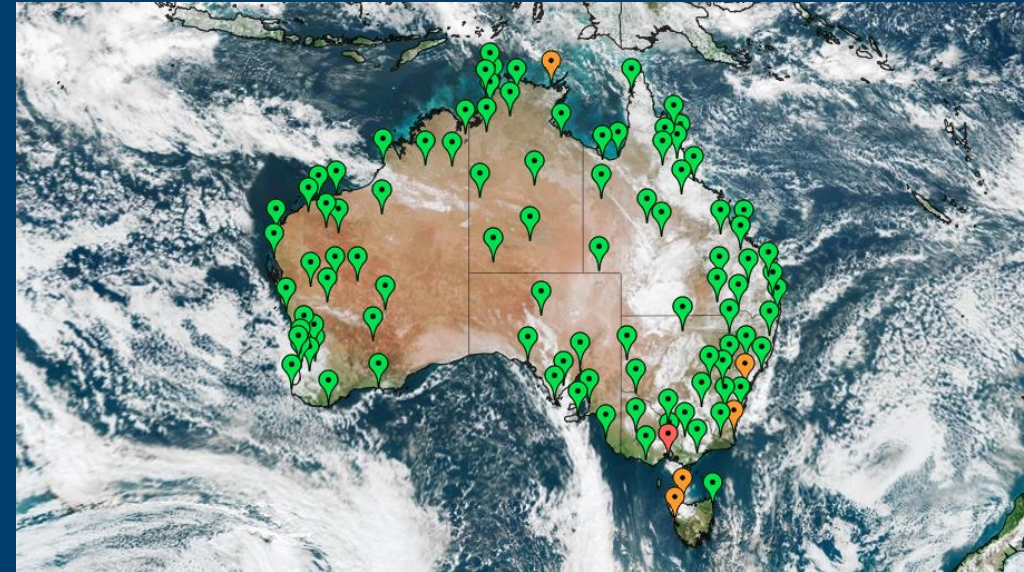
Brisbane
City Council

How: in 2014 DTN / Weatherzone deployed Australia's Total Lightning detection Network (TLN). Since then, have partnered with the BoM to supply lightning data for:

- Internal Use - for meteorologists
- External - for their website
- Defence - Globally
- Aviation - Airport and flight safety and SIGMET/WX charts

Benefits:

- this disrupted the traditional model. Of NMHS owning infrastructure and the BoM began using DTN as a DaaS supplier and alternative to other private lightning detection networks.
- This saved the BoM millions in costs to set up and operate another network.
- DTN in turn is able to monetise the data through commercial services and support the cost of the network.



Continuation: Following the successful collaboration with the BoM, DTN was engaged by Brisbane City Council to expedite the roll out of an Early Warning System for the municipality with over 2.5m residents.

- DTN delivered a solution that seamlessly integrated official BoM weather warnings, hydrological flood alerts, and bespoke council notifications into a unified Early Warning Alert system.
- The outcome was a robust and rapid weather and hydrological alert system, that notifies all residents promptly about imminent risks of severe weather, flooding, and, wildfires.
- The alerts are disseminated through a multi-channel approach, including SMS, text-to-voice calls, emails, and push notifications, and offered in multiple languages for accessibility.

How to enable successful data as a service via S0FF

A New Way of Financing Surface observations

Dialogue enables partnership

- RFI approach is the most formal way to engage on possible solutions
- In-person workshops are much more effective
- Discuss: local infrastructure, siting, 1st line of support

Define local needs and challenge private sector to deliver

- Opportunity to recover value from past investments
- Integrate and report data from existing stations
- Private sector to partner with local companies for ongoing support

Financing and Commercial Models

- Performance based payment is the best way to ensure data availability and quality (ROI)
- Contract length should be linked to network / system life cycle
- Plan collaboration model early
- Legal terms must be fair

NMHS & Private Sector collaboration on service delivery

- Ideal model involves revenue share partnership, data leveraged to deliver added value services in country with private sector products
- Leverage private sector innovation & economies of scale



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