Frontline Humanitarian Logistics

Supply & Logistics is a critical technology capability that is required for Humanitarian emergency operations. Many of the 71 million forcibly displaced people¹ depend on humanitarian response for lifesaving support in post-disaster and conflict environments. Yet in 2019 much of the humanitarian sector is still dependent on spreadsheets to manage Frontline Humanitarian Logistics. This unserved need is due to industry specific requirements of the Humanitarian sector that are quite unlike commercial logistics solutions. Commercial solutions have proved inadequate in the last-mile, austere and rapid scale up environments that we face in humanitarian response.

The sector has created many home-built solutions or cross-organisation attempts such as HELIOS². While fulfilling the immediate needs at the time, these solutions have not delivered on their promise. Ultimately, Humanitarian INGO’s are not resourced to continually maintain and support software. We also see sub-verticals in our sector such as healthcare and WASH, that lead organizations to developing custom, non-interoperable solutions. These are failing to deliver capability and value to sector organizations due to inadequate investment.

Unless we solve this challenge, Humanitarian Organizations will fail to deliver the impact they could. Further, with aging systems in Tier 1 response organizations we risk severe impact on Humanitarian Operations if we do not act in the near term.

With many INGO’s moving to ERP in 2019/20 there is a window of opportunity to deliver a sustainable technology capability for our Humanitarian Community, interoperable with our wider organisation’s capabilities.

Humanitarian organisations met as part of Nethope in Innsbruck and agreed to:

1. conduct a Learning Exercise to identify key stakeholders to work on this initiative and to learn from previous attempts such as HELIOS to understand why they have failed to deliver the ultimate impact they called for.
2. create an open NGO Data Model for Humanitarian Logistics (NDM-HL) that aligns with sector standards and initiatives and serves as a common language for all INGO’s and Vendors.
3. for organisations that have selected Microsoft Dynamics as their future ERP platform; form a Sector Vertical solution for Humanitarian Logistics with Microsoft.

We ask that a coalition of willing stakeholders work to deliver these three components. The outcome will be a widely recognised NGO Data Model for Humanitarian Logistics and an industry vertical solution, supported by a strong development and maintenance model.

¹ https://www.unhcr.org/globaltrends2018/
² Inter-agency Humanitarian Supply Chain software initiated by Fritz Institute in 2005: http://www.fritzinstitute.org/prgTech-HELIOS_Modules.htm
1. Learning Exercise

A sector wide learning exercise that will consist of two parts:

1. Build a coalition of the willing:
   - Assess all target audience agencies and their key concerns in relation to Frontline Humanitarian Logistics.
   - Identify and engage the right organisations to bring on board for the NDM-HL and the Sector Vertical. While there may be many organisations that would qualify based on process and structural characteristics, agencies often underestimate the complexity and resource requirement of this type of initiative. We require organisations that:
     - have an active current interest in applying IT to their frontline HL operations
     - are willing to make the resource commitments that will help the initiative succeed.

2. Synthesise initiatives to date:
   - Common pitfalls, success factors and key ingredients for product sustainability will be identified. These will draw from documented learning\(^3\), workshops, personal experience of key participants from Supply & Logistics projects, and similar efforts over the past 5 years regarding data standards, (cash) distribution, beneficiary registration and project management.
   - Learnings and recommendations shall provide the foundations for the NDM-HL and the Sector Vertical.

2. NGO Data Model for Humanitarian Logistics (NDM-HL)

We shall formalise findings from the Learning Exercise into a common language and data standard that will facilitate rapid sector-wide understanding and collaboration. This will:

- Contain data entities and relationships that capture all Frontline Humanitarian Logistics capabilities.
- Update concepts and language in the NGO Reference Model\(^4\).
- Be compatible with Humanitarian data standards such as Humanitarian Exchange Language\(^5\) and complements initiatives such as the Grand Bargain\(^6\) and the Core Humanitarian Standard \(^7\).
- Ensure interoperability with surrounding organisational capabilities such as ERP via compatibility with initiatives such as Microsoft’s Common Data Model\(^8\).
- Be freely available so that all INGOs and Vendors may use it and build tools to further accelerate Humanitarian Logistics.

---

\(^3\) For example, see: [https://www.developmentbookshelf.com/doi/10.3362/9781780449531.023](https://www.developmentbookshelf.com/doi/10.3362/9781780449531.023)
\(^4\) [https://www.ngoreferencemodel.org/](https://www.ngoreferencemodel.org/)
\(^5\) [http://hxlstandard.org/](http://hxlstandard.org/)
\(^6\) [https://www.agendaforhumanity.org/initiatives/3861](https://www.agendaforhumanity.org/initiatives/3861)
\(^7\) [https://corehumanitarianstandard.org/the-standard](https://corehumanitarianstandard.org/the-standard)
3. Sector Vertical

For organisations that have selected Microsoft Dynamics as their future ERP platform, we agreed to build a sector vertical on the Dynamics 365 platform that:

1. Meets our core needs through a Microsoft supported Vertical Accelerator approach, building upon the Learning Exercise. Core data components from the NGO Data Model for Humanitarian Logistics will be implemented and maintained. (60% of effort)
2. Fosters an ecosystem of partners that can develop the core to be sub-vertical specific e.g. Healthcare, WASH, Food etc. and understand how these sub-verticals can be shared as part of a Humanitarian app store. (30% of effort)
3. Permits organisation specific configuration and customisation using PowerApps, Flow, PowerBI and partner applications. (10% of effort)

Analysis of Need

The reality of Humanitarian Operations determines why Frontline Humanitarian Logistics merits its own vertical. As key differentiators, the platform must:

- Have heavy focus on simple short-term re-planning under highly volatile circumstances.
- Support transition from initial “push” of standardised humanitarian kits to “pull” resourcing driven by operating context.
- Have a layered user interface to ensure training is only required for the most technical interactions.
- Support use by partner organisations.
- Allow data to be safely and transparently shared with stakeholders, including pull reporting by donors.
- Be configurable across multiple organisations.
- Be rapidly deployable and scale-up effectively.
- Have adequate safeguards against corruption, aid diversion and fraud.
- Integrate with ERP solutions for surrounding organisational capabilities.

The ask is for **frontline Supply & Logistics**, not: Global Resource Allocation, Financial Management, Warehousing, Fleet Management, Human Resources Management, Digital Case Management, Enterprise Asset Management, Materials Resource Planning. These are all capabilities we need to bring to bear as part of the solution, but they may be available as integrations with existing off-the-shelf capabilities.

Additionally, the platform must:

- Employ platform licensing that reflects varying platform engagement by different stakeholders (implementing partners, staff, volunteer, project worker, donor etc.)
- Use an open data model, interoperable with:
  - Humanitarian Exchange Language (HxL).
- International Aid Transparency Initiative⁹ (IATI) per the Grand Bargain initiative.
- Other supply and logistics packages.
- GIS and other relevant data sources.
- Fleet management.
- Finance.
- HR.

**Be built for the future:**
- API to connect 3rd party solutions or interfaces.
- Take advantage of new technologies such as RFID, IoT, robotics, Cloud.

**Provide a secure mission critical real-time service that supports:**
- Very high availability at low cost.
- Privacy by Design principles.
- Occasionally connected devices.
- Austere bandwidth requirements with radio, satellite and 2G low bandwidth high latency capability.
- Highly constrained hardware requirements.

---

⁹ [https://iatistandard.org/en/about/](https://iatistandard.org/en/about/)