



iFEST 2018

Learning Analytics with xAPI in a Multinational Military Exercise

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President

Who we are

- We are a 501c3 non-partisan, not-for-profit corporation.
- Data visualization experts for over 15 years
- We create and deploy digital tools to improve both formal and informal education.

Description of the project

Goal: Operational integration of ADL into Viking 18 – an international exercise.

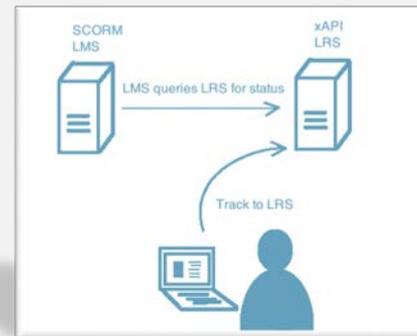


Objectives:

- Co-production of courses with V18 countries;
- Implementation of xAPI across V18 platforms;
- Setup & secure V18 LRS;
- Implement a multiplatform xAPI dashboard;
- Capture lessons-learned and build a multi-year forward plan on integrating ADL in exercises.

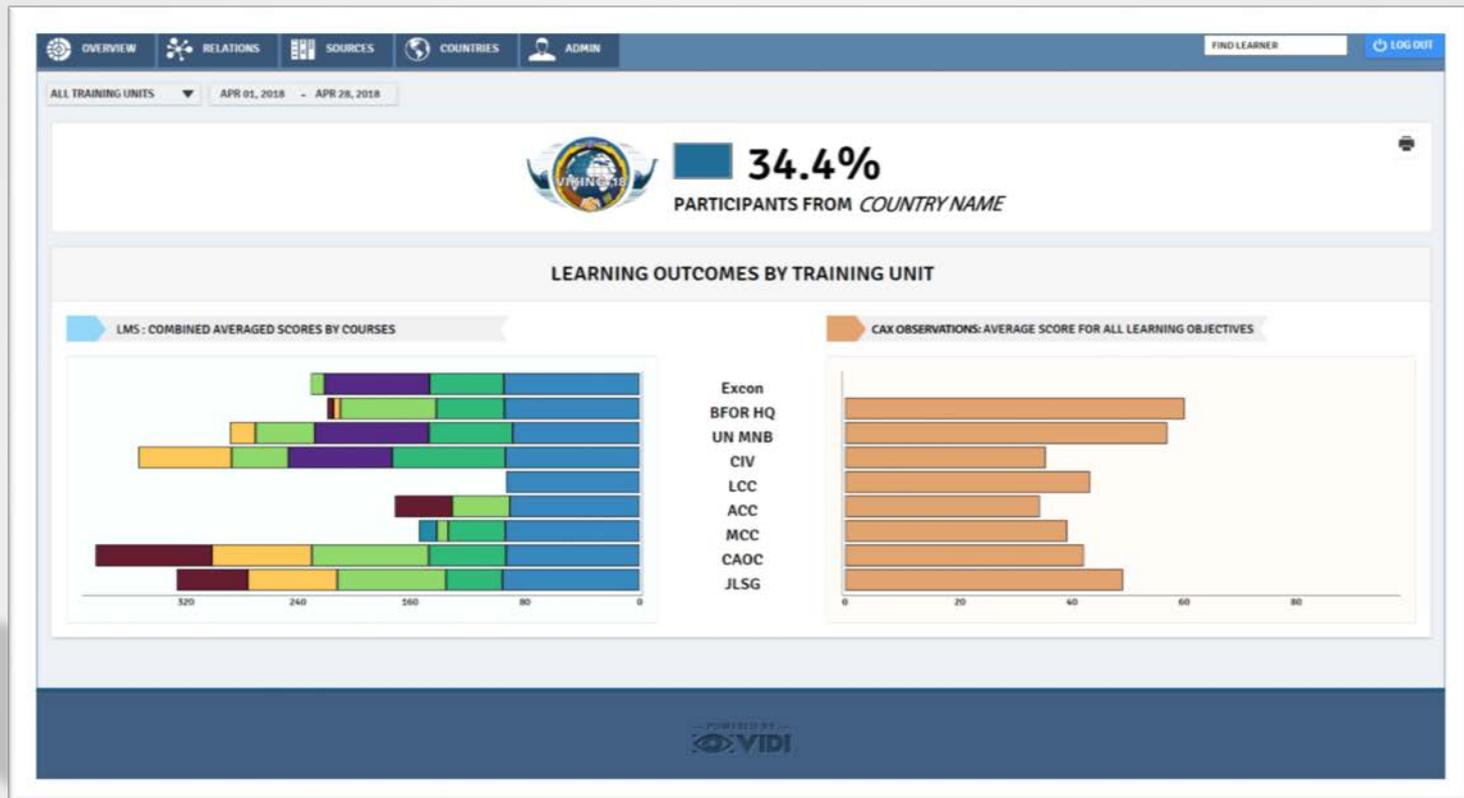
Problem Space

- Blended Learning improves training effectiveness and efficiency in small-n studies; while strategic guidance emphasizes distance learning in training (eg DODI 1322.26)
- Yet, exercises are separate from online learning and learning analytics is not measured against exercise metrics.
- xAPI is a maturing analytics standard but remains largely untested with complex multiplatform asynchronous learning and performance data at scale.



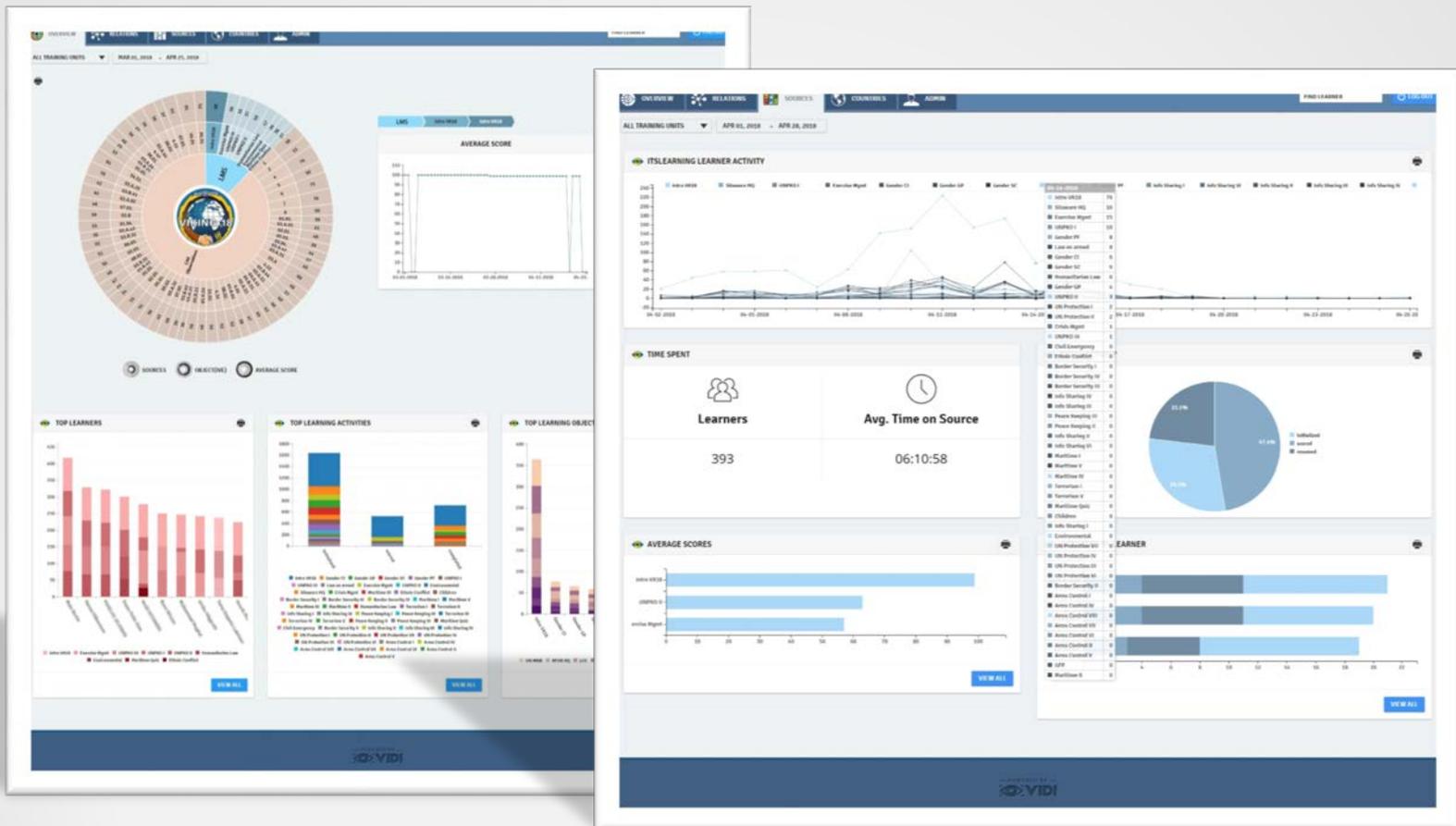
Solution Space

Look at an exercise as total learning experience, capturing all elements, comparing learning and exercise objectives.



Solution Space

Blend human centered technical innovation with institutional history and organizational transformation.



Stakeholders



A Swedish / U.S. Initiative, Viking 18 is the most recent in a series of exercises initiated at NATO's 50th Anniversary Summit in 1999.

A comprehensive and unique collective training opportunity for military, civilian and police.



Stakeholders

It is the most extensive multifunctional exercise of its kind and includes more than 50 countries, 35 organizations, and 2,500 participants for 10 days.



Viking 18 is arranged by the Swedish Armed Forces and the Folke Bernadotte Academy, with remote sites in Brazil, Bulgaria, Finland, Ireland, Serbia and Sweden.



Risks:

- LMS is not xAPI compliant;
- Courses are built using various standards;
- Multiple national stakeholders and platforms;
- Challenging security environment;
- Limited timeframe, high visibility.

Payoffs:

- Partner ADL capabilities increasingly align with US DoDI 1322.26;
- Hard case proof of concept for xAPI implementation;
- Quick iteration of next Viking exercise cycles for action on lessons learned.

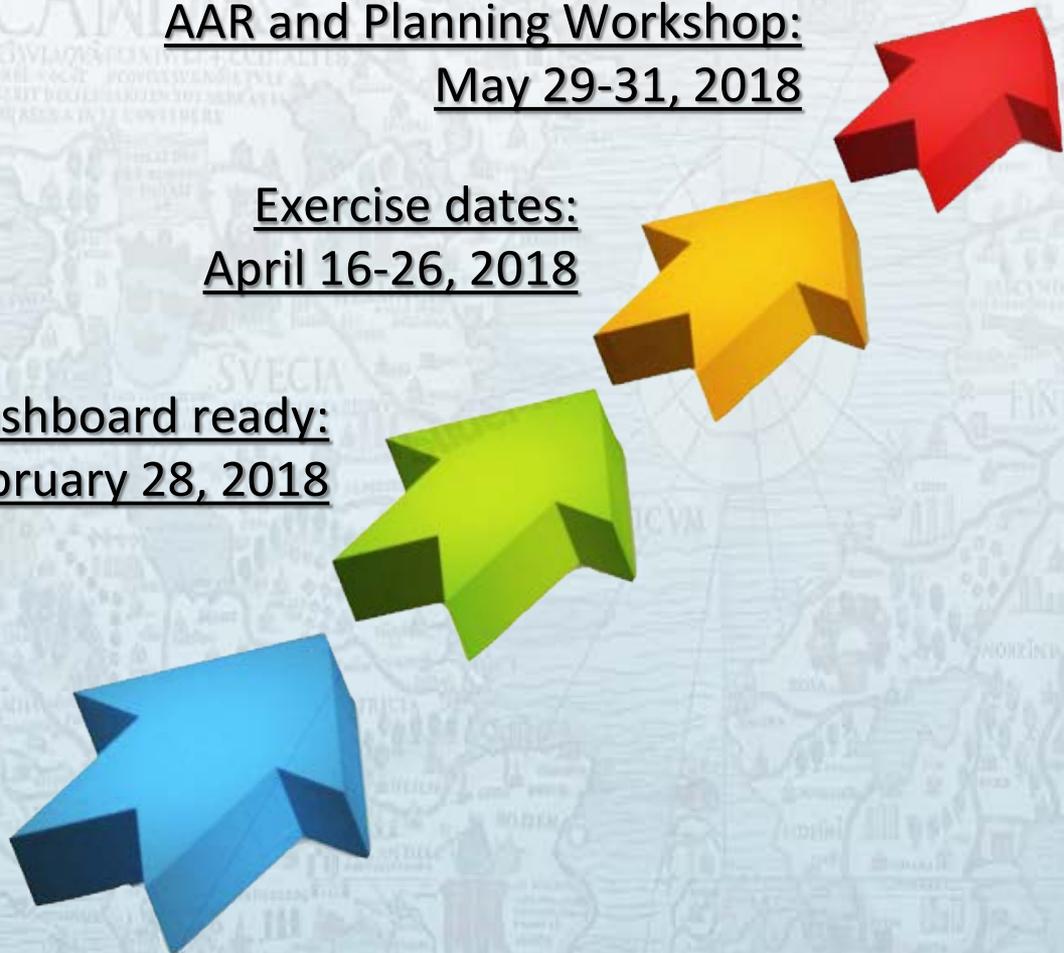
Plan of Actions and Milestones

AAR and Planning Workshop:
May 29-31, 2018

Exercise dates:
April 16-26, 2018

LMS open and dashboard ready:
February 28, 2018

Start date:
November 2017



Bottom Line

The integration of ADL into the Viking 18 exercise was a successful proof of concept - in terms of technology, user demand, cyber security, and operational processes. It is an excellent demonstration of how much we can get done in partnership with Sweden, NATO, and other partner nations.



The technology is ready:

- xAPI can be extracted from a hard case non-xAPI-compliant LMS;
- the xAPI wrapper works well on newer courses, and its functionality can be replicated across a wide variety of older legacy course content;
- visualizations are capable of managing asynchronous data streams from diverse sources in multiple formats and of various scales;
- stakeholders are able to deliver data in a secure and timely manner.



Operational Processes

- 29 courses drawn from 6 sources: NATO ACT, JKO, Sweden, Serbia, BiH, and Macedonia.
- ADL is approaching something close to interoperability in course repositories.
- A "course plan" was built for each V18 unit with a combination of the highly *recommended* Intro to Viking and 2-5 *recommended* courses with content relevant for their role in the exercise.



Cyber security

The secure cloud based LRS and Dashboard remained live, with no intrusions throughout the pre-training and exercise.



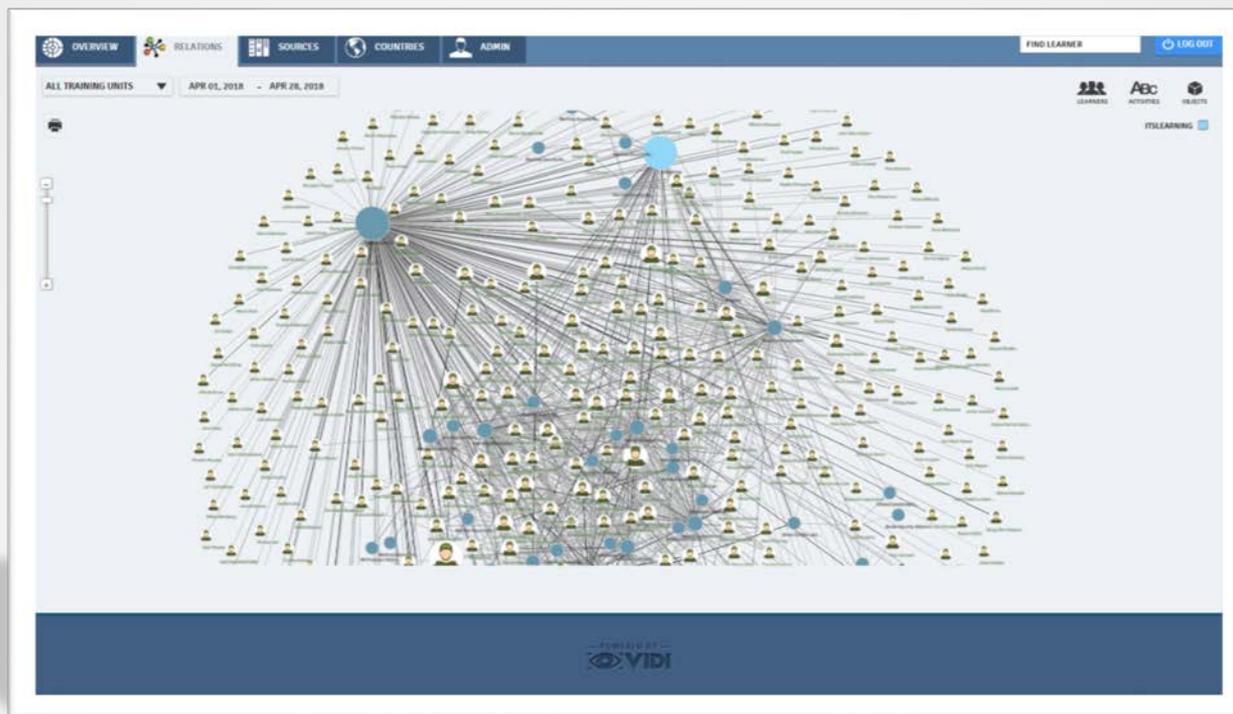
User demand

The Intro Viking course was downgraded from mandatory to highly recommended, there was little to no advertising of the e-learning opportunities, and creating user accounts for the e-learning platform proved cumbersome at best.



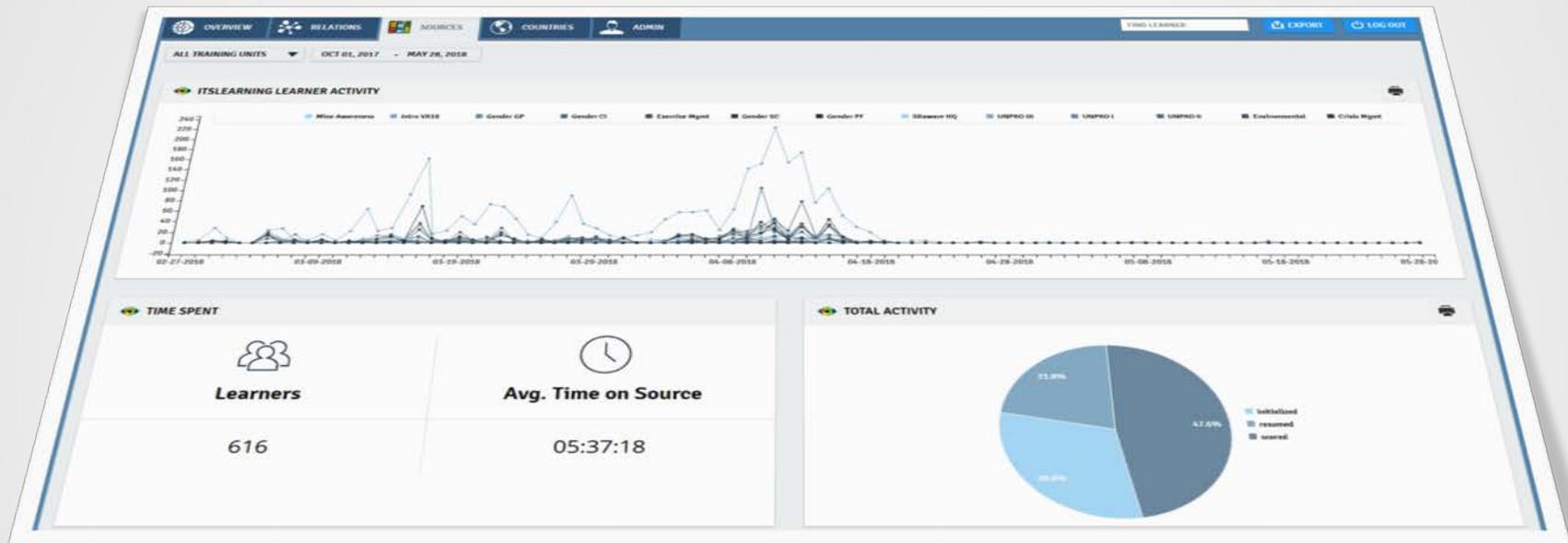
User demand

Nevertheless, we saw high demand among exercise participants for e-learning resources, and high demand among both exercise stakeholders and learners for easy access to intuitive data based results/insight.



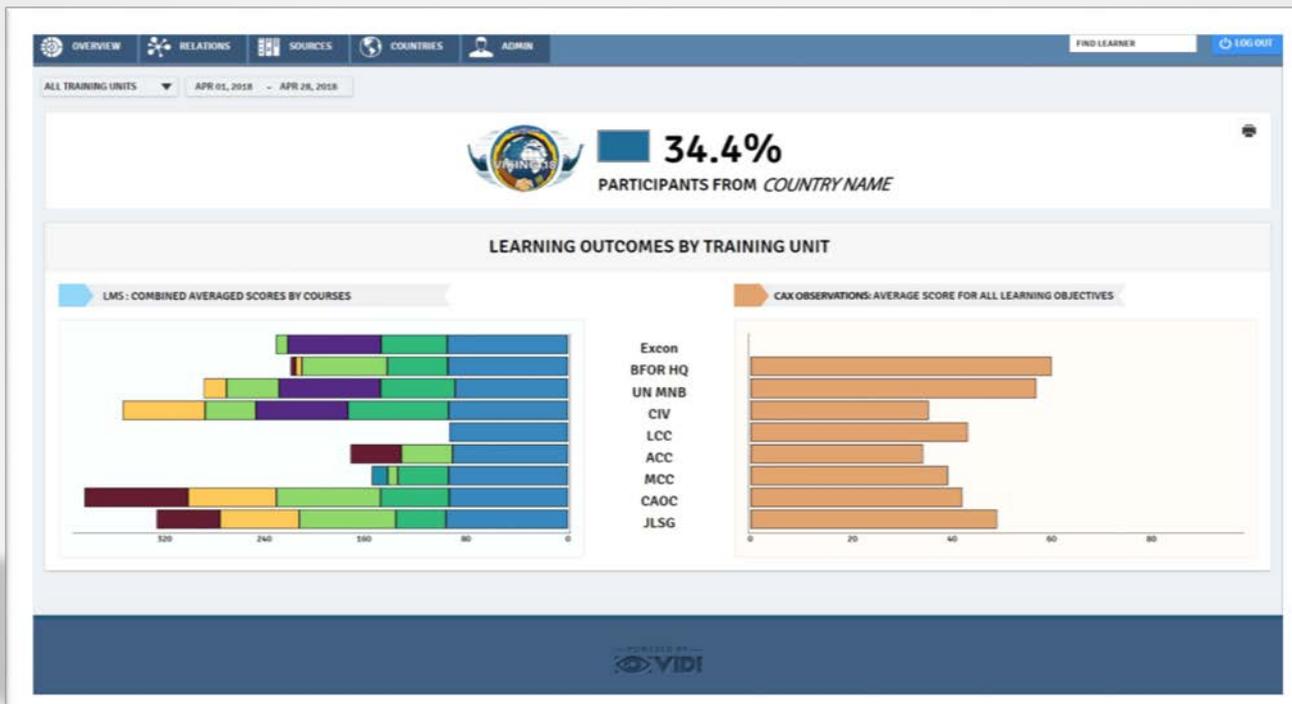
User demand

773 exercises participants successfully created elearning accounts for the V18 LMS, with over 700 course completions and 1,000 additional courses initiated but not completed, spending an average time on site of 5hrs 30 min.



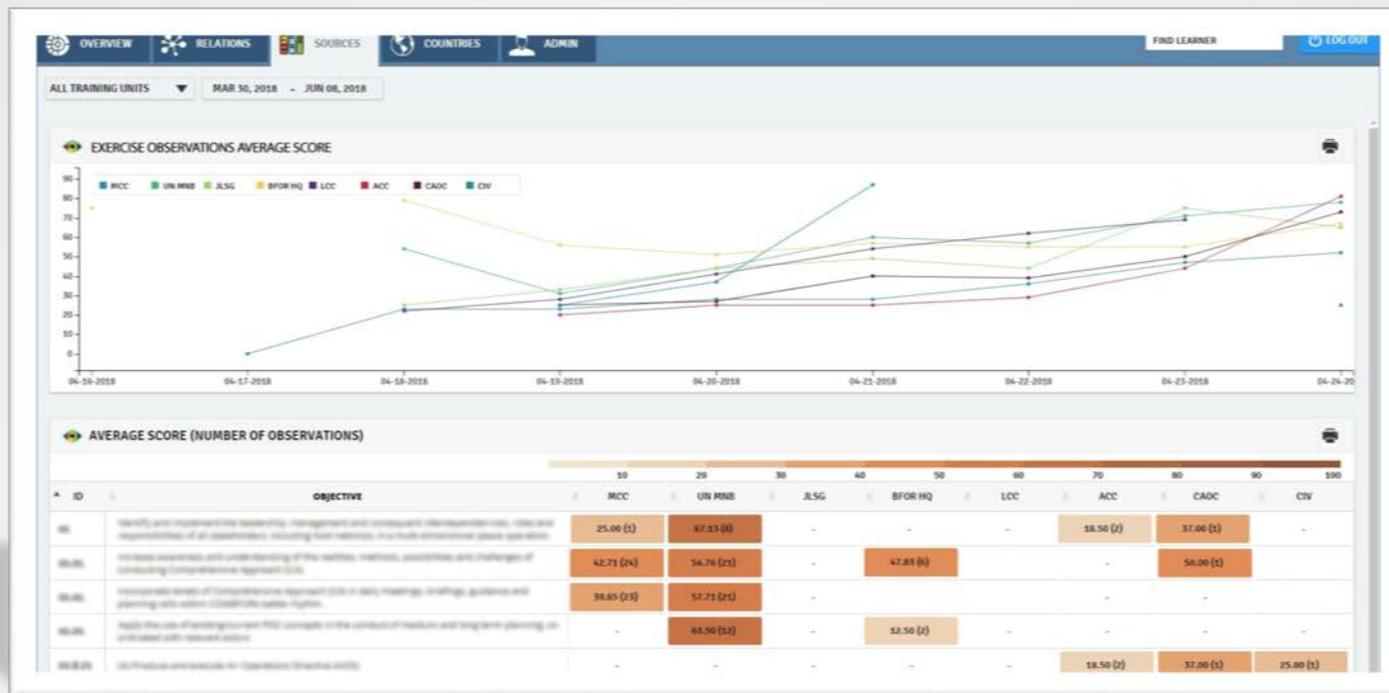
User demand

Finland and Sweden were top performers. Top courses completed, in rank order were: Intro to Viking, Gender awareness, Sitaware, Exonaut, UNPKO, and Humanitarian Law. Of these top six, 4 were authored with RADLI countries, and one by JKO.



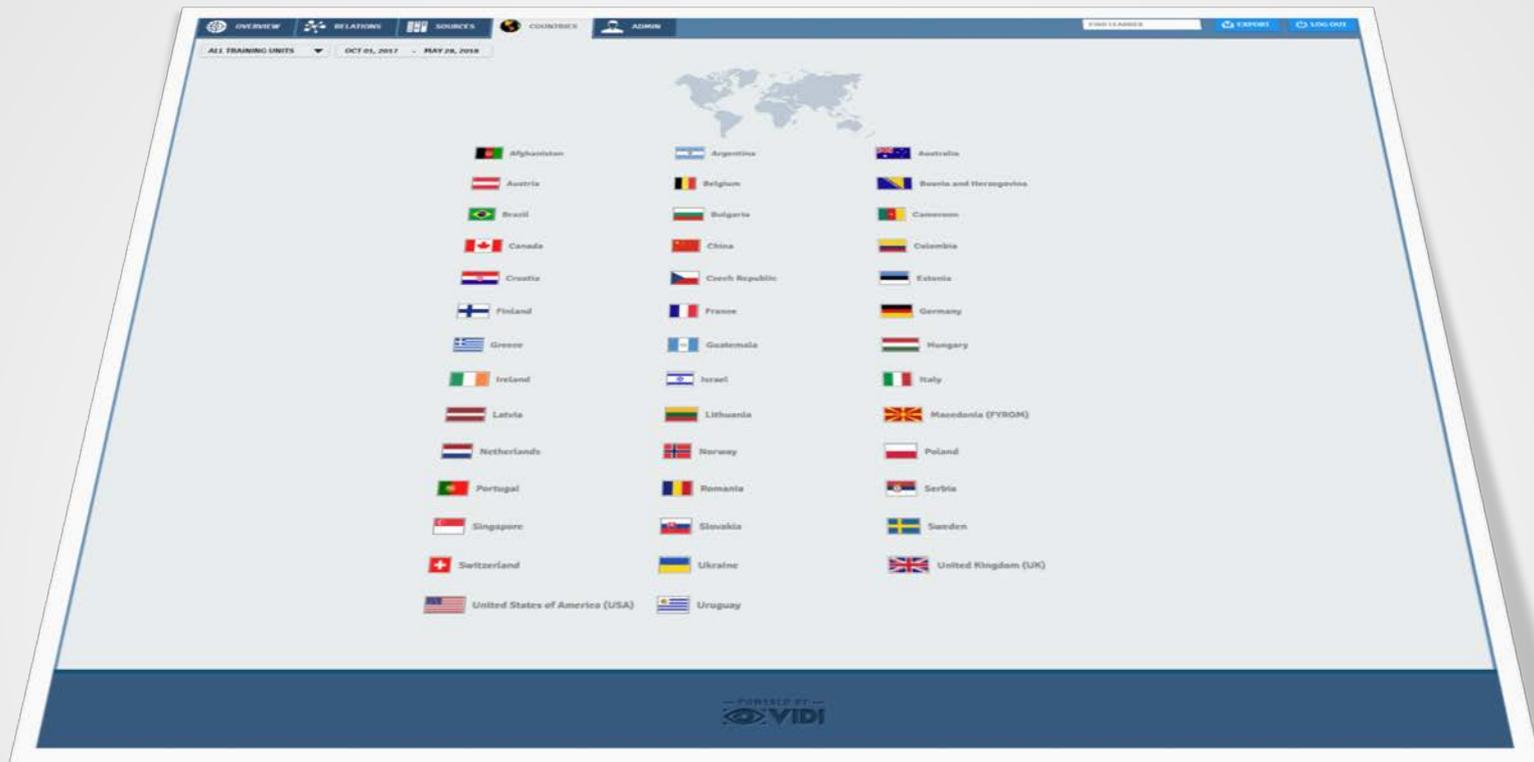
User demand

Dashboard: we offered the only current V18 data on exercise performance (e-learning and experiential via Exonaut observations data) in the Innovation tent.



User demand

Nation pages: offered a useful summary for participant delegations: something clear, immediate and relevant to bring home.



Lessons Learned

- xAPI is ready for timely secure implementation at scale in a complex multinational system of legacy systems.
- Collective training with partners is fertile ground transformative for innovation.
- E-learning course objectives and exercise objectives should better align.
- Learning analytics should be driven by stakeholder demand signals: learners, operators, planners, strategic actors.
- User access to both learning content and learning analytics must be improved.

Innovators in Action



Project team



Questions/Comments

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