



D8.0 iAM3DPO Dissemination and Exploitation Report

Project title: Intelligent Advanced Additive Manufacturing – Enabling Dynamic Process Efficiency (iAM-3DPO)

Project 76940

Date 30/9/2024

Report of dissemination activities.

Q1

No activities

Q2

Lancaster University submitted a Paper to the Journal of Sensors Title: “Digital twin-driven machine condition monitoring: A literature review” - subsequently accepted in Q3.

https://drive.google.com/file/d/1zkwq2ha-ZILkQhvgKC4f_OVMcag04A4h/view?usp=drive_link

Nquiringminds - attendance and presentation of technology at Mobile World Congress, Barcelona.

Q3

ThinkLaser - Possible new R&D project as an outcome to this project due to the process monitoring inclusion in our optical setup

NQM - Planned presentation at TWI Innovation Network - providing work as case study and basis of collaboration

NQM - undertaking company wide training in EU bid writing, in order to increase options for downstream adoption

NQM - presented as case study of “Zero Trust Cognitive Architecture” at Barcelona Cyber Security Congress <https://www.barcelonacybersecuritycongress.com/>

NQM - using iAM_3DPO as test case of ManySecured protocols (cyber defences)
<https://apply-for-innovation-funding.service.gov.uk/competition/286/overview>

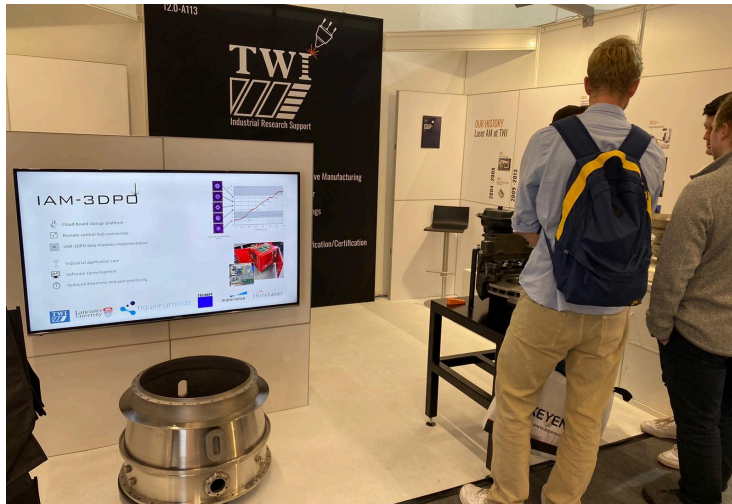
NQM - also opportunity to demonstrate simplified onboarding mechanism
<https://www.nccoe.nist.gov/projects/trusted-iot-device-network-layer-onboarding-and-lifecycle-management> (details to be defined)

Q4

Planning work for future dissemination

Q5

TWI - presented the working concept of IAM-3DPO at FORMNEXT - Europe’s largest additive manufacturing conference held in Frankfurt Germany.



NQM Demo at Venture Fest South



Q6

NQM - Two major industry events attended in Jan and March where we demonstrated the core analytics platform, connectivity, security features and industrial application (iAM_3DPO) featured as important end user use cases.

- Attended by 20,000 and 80,000 people respectively
- Strong DBT (DIT) support
- not directly funded from IAM3DPO
- IoT Solutions World Congress - <https://www.iotsworldcongress.com/>
- Mobile World Congress - <https://www.mwcbarcelona.com/>



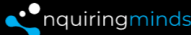
A lot of talking about Zero Trust @MWC23 But how many can actually achieve perimeter-less security? @nqminds are launching TDXVolt and CyberTDX at Hall 7 Stand 7A15.8 Fira de Barcelona We are helping define new standards for advanced cyber security #cybersecurity #DSbD #Morello



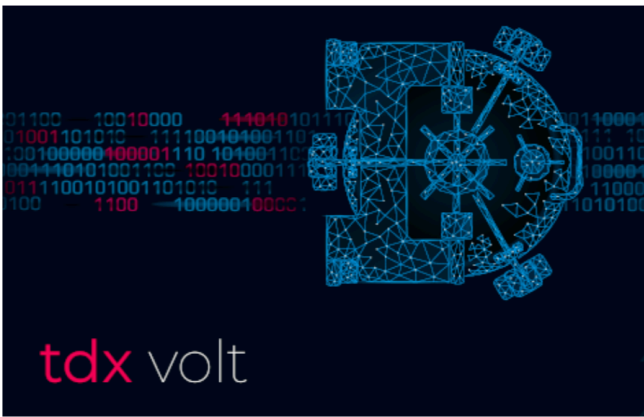
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Home Platform Cyber

Mobile World Congress (MWC23)
Feb 22, 2023



Leaders in the UK deep tech arena [nquiringminds](#) join the [UK Pavilion](#) at Mobile World Congress 2023, the world's largest and most influential connectivity event.

[nquiringminds](#) will be launching two new security products at their stand 7A15.8:

TDXVolt: a zero trust services infrastructure platform and

CyberTDX: a cognitively enhanced cyber defence service designed for the internet of things (IoT)

Both products are the latest iteration of the TDX product family.

TDXVolt is a distributed platform that provides the ability to securely share services, structured data, files and analytics in a peer-to-peer, decentralised fashion. It fully embodies zero-trust principles where every endpoint authenticates and authorises its connected peers. The distributed design means it can be deployed in public and private cloud, edge-based, and isolated peer to peer connections. This design also makes it particularly useful in complex supply chains, where the nature of the trust relationship between organisations is complex, dynamic and evolving. We are launching a beta test program at MWC for early adopters.

CyberTDX helps routers and gateways better protect the network against IoT attacks. It assumes that there are many insecure IoT devices already in the market, which are not going away any time soon. CyberTDX enhances the role that the gateway can play in the detection and protection against IoT attacks and is always will be a valuable addition to a comprehensive security strategy. CyberTDX is built on top of the VOLT platform.

To demonstrate our commitment to defence in depth, we will be demonstrating both TDX and CyberTDX on ARM's Morello architecture. This new chip design with its memory protection and secure compartmentalisation features demonstrably improves networking security.

Conference theme:

Towards Human-Machine Symbiotic Industrial Transformation

面向人機共融的工業轉型

28 April - 1 May 2023 | HongKong, China | www.nsfcr-gc2023.org

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- LU - project will be presented at the upcoming Frontiers of Industrial Big Data and Intelligent Systems conference held in Hong Kong on 28th April.
- LU - The developed process parameter optimisation algorithm will be submitted to present at the The 28th International Conference on Automation and Computing held in Birmingham on 30th August.

https://docs.google.com/document/d/1ImSY-c6DUfLc_0h_MYWu8KCMcaQifZOw/edit?usp=drive_link&oid=102010336382117648681&rtpof=true&sd=true

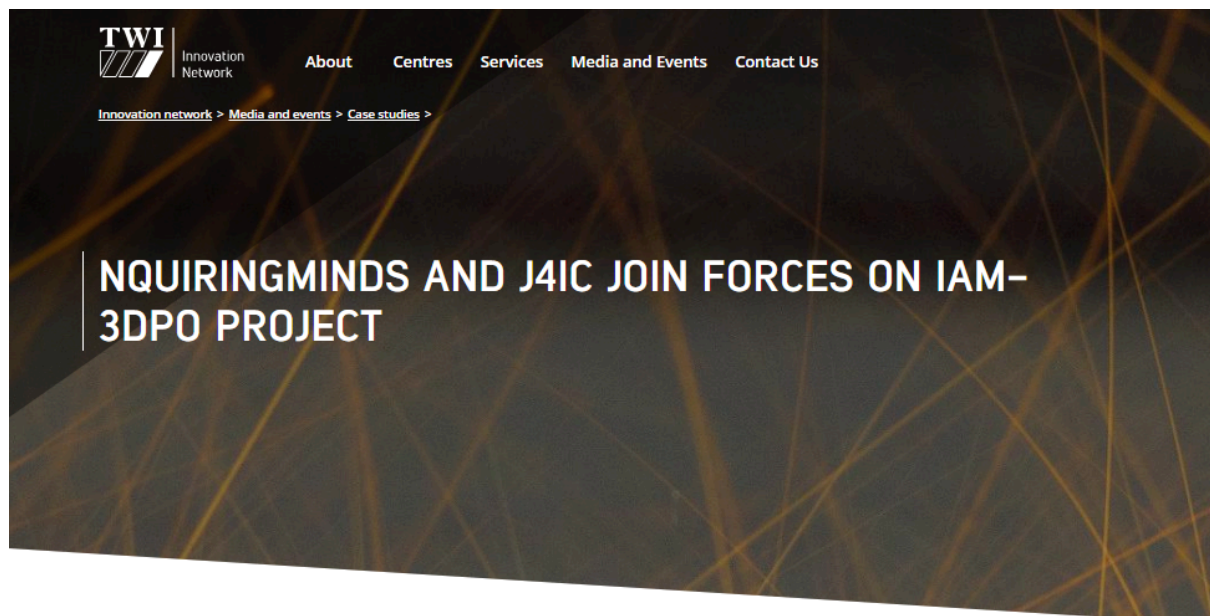
Q7

No activities

Q8

Project as a case study for TWI website (Lancaster University also involved):

<https://www.twi-global.com/innovation-network/media-and-events/case-studies/nquiringminds-and-j4ic-join-forces-on-iam-3dpo-project>



NquiringMinds and J4IC join forces on IAM-3DPO project



October 2021 marked the start of the novel IAM-3DPO project, with deep tech UK company and TWI Innovation Network Member NquiringMinds and the Joining 4.0 Innovation Centre, a strategic alliance between Lancaster University and TWI, kicking off the all-important research and development phase together with their fellow consortium partners.



NquiringMinds, established in 2010, provides intelligent, trusted systems that combine deep artificial intelligence (AI) powered analytics with strong, cyber secure fundamentals for application in smart cities, healthcare, industrial, agricultural, fintech, defence and other areas. Its TDX (trusted data exchange) products provide tools to share, data analyse and deploy in the real world, where relations between organisations, systems and people are constantly changing. The Joining 4.0 Innovation Centre (J4IC) was formed in 2017 to focus on the digitalisation of joining and associated manufacturing technologies in the context of industry 4.0. J4IC integrates Lancaster University's research strengths in engineering, data science and computing with TWI's world-leading knowhow in joining technologies, with the aim of creating and embedding transformative manufacturing capabilities for industry.

Lancaster conference



Q9

IoT Security Foundation Conference 2023

- Presented on secure IoT solutions
- Use of IAM3DP and an example of high value assets that need protection to enable the business value
- High profile event with industry, government and academic attendees



Secure Silicon Event (UK Gov £200m investment). ARM, Google, Microsoft support

- Discussion of IAM3DPO as use case (secure industrial router exemplar)

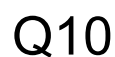
The UKRI DSbD ALL Hands Event, Old Trafford, 8 November 2023

- Dr Nick Allott outlining the CHERI Value Chain



Attended mobile world congress. Securing partnerships for 5G industrial projects

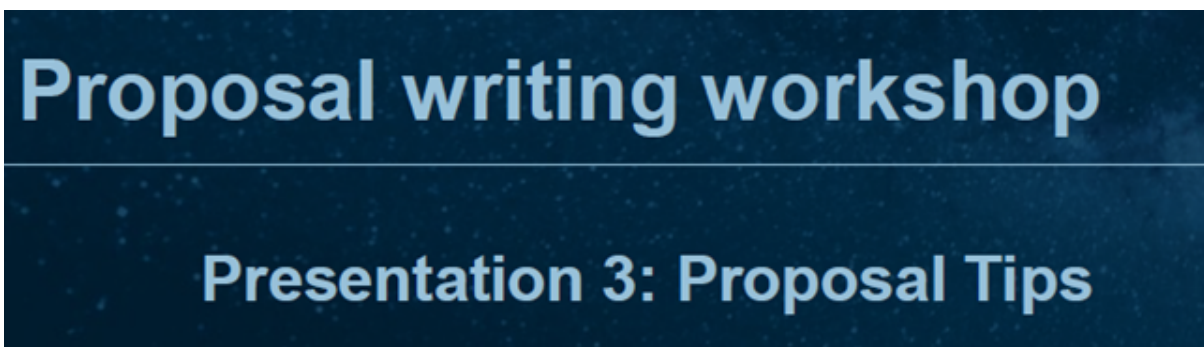
- Ministerial announcement. Headline event for UK DBT



- DPRTE connects buyers and suppliers from across the defence procurement and supply chain community – worth more than £25bn+ annually.



NQM attended European Space Agency Proposal Writing workshop – Cardiff – Feb 2024



March 2024 - NQM registered for R Cloud

- Join R-Cloud to gain access to security and defence contracting opportunities across all the MOD's science and technology research areas (capabilities).

NQM Applied to Astrid

NQM in process of applying to Serapis lots 3,4 and 6

Q11

Various Frameworks applied for /investigated

- Serapis
- Astrid
- RCloud
- Progeny
- ACE
- GCloud

IoT assurance framework - NQM have recently been invited on the board of <https://iotsecurityfoundation.org/best-practice-guidelines/>

Assurance frameworks – which is establishing the security requirements for IOT devices

This becomes particularly important with regard to the incoming worldwide legislation

And is great for the positioning of our products

Events

Techworks AI - 16th April

Dr Nick Allott
presenting at the
TechWorks AI Launch
event at Bletchley
Park

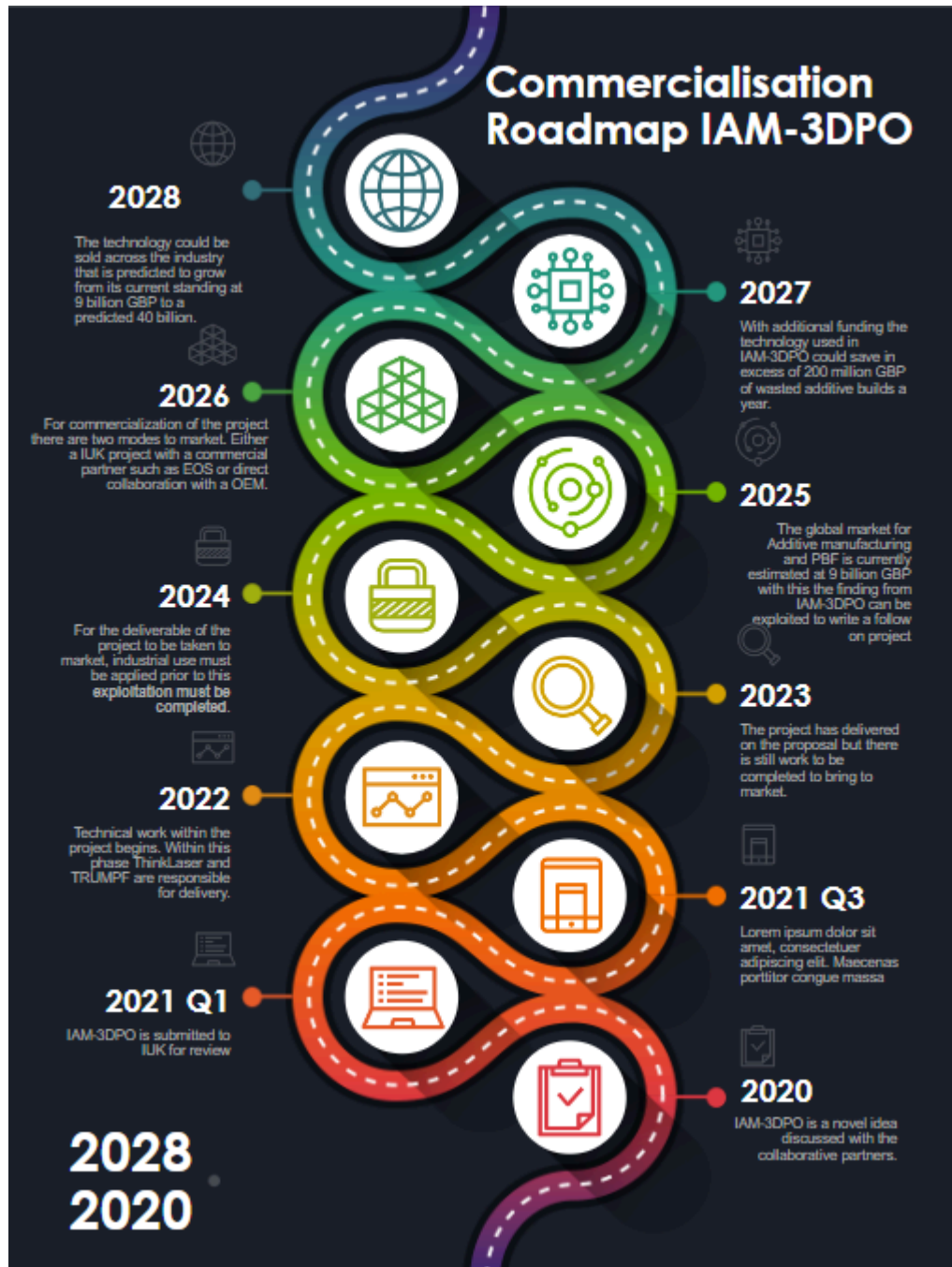


Launch event –
YouTube via
TechWorks AI website



[TechWorks AI Launchpad -
Bletchley Park 2024 \(youtube.com\)](https://www.techworksai.co.uk/launchpad-bletchley-park-2024)

Roadmap produced



Q12

Various Frameworks applied for /investigated
 Joscar
 Crown Commercial Service AI Framework

Attended and presented at Joscar Live - 12th September - Farmborough
 Winners of the Judges award for the most Innovative SME