Host (on behalf of ASD):

ADS is the Premier Trade Organisation for companies in the UK Aerospace, Defence, Security and Space Sectors.

Turning the Language of S1000D into the Language of Machines Using AI
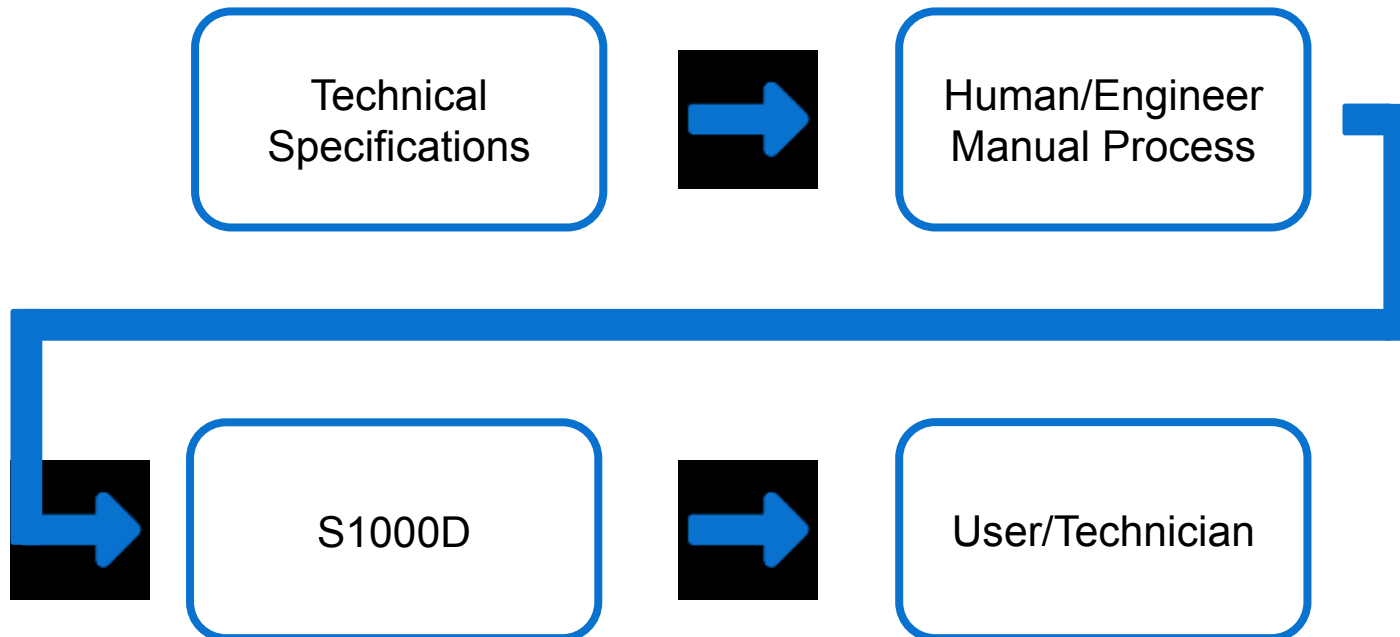
A Way to Simplify Maintenance and S1000D

Name of presenter: Anant Sahay

Rank/title of presenter: CEO and Founder

Company/organization: Lex^X Technologies

S1000D User Forum, London   *October 14-16, 2019*
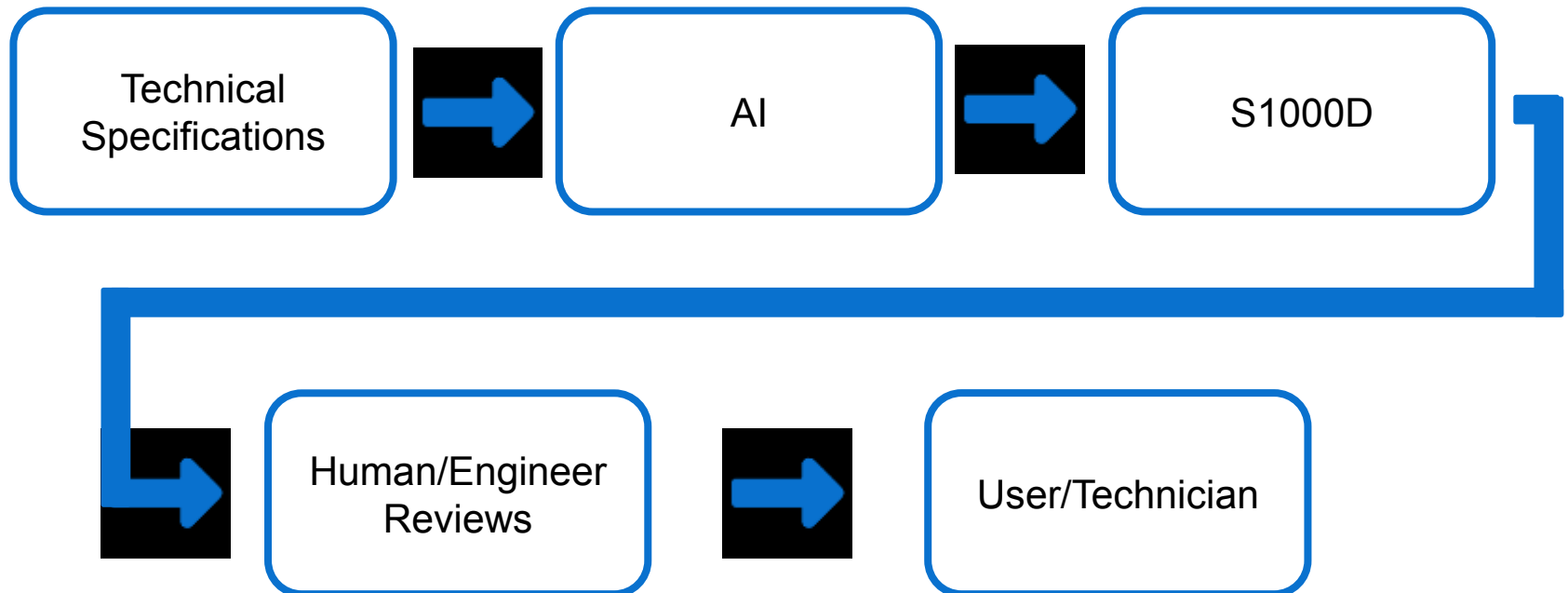
Current Process:

```
┌─────────────────┐        ┌─────────────────┐
│   Technical     │   ──▶  │  Human/Engineer │
│  Specifications │        │  Manual Process │
└─────────────────┘        └─────────────────┘
                                     │
┌─────────────────┐        ┌─────────────────┐
│     S1000D      │   ──▶  │  User/Technician│
└─────────────────┘        └─────────────────┘
```

AI Enabled Process:

```
┌────────────────────┐      ┌────────────────────┐      ┌────────────────────┐
│     Technical      │ ──▶  │         AI         │ ──▶  │      S1000D        │
│   Specifications   │      │                    │      │                    │
└────────────────────┘      └────────────────────┘      └────────────────────┘
                                                                    │
          ┌─────────────────────────────────────────────────────────┘
          ▼
┌────────────────────┐      ┌────────────────────┐
│  Human/Engineer    │ ──▶  │   User/Technician  │
│     Reviews        │      │                    │
└────────────────────┘      └────────────────────┘
```

A layer of abstraction of the complexity of the documentation can be added to **simplify the job of technicians** utilising the S1000D format, and result in increased availability and on time performance of these complex systems.

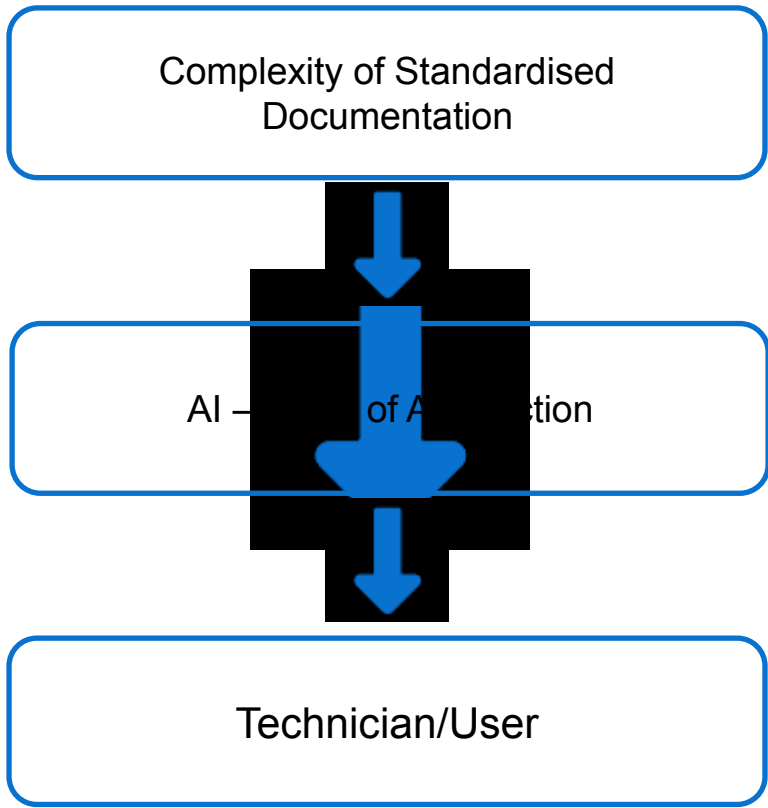*Artificial Intelligence will simplify the process.*

Natural Language Processing bridges the gap between the real and digital worlds.

New AI Applications Reduce Inherent Complexity

Current Process: / **AI-Enabled Process:**

- Costly information and efficiency gathering/publication
- Duplicated interoperability
- Simplification for participants
- Enabling future developments

Complexity of Standardised Documentation

AI — of A ction

Technician/User

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Common Standards - a Catalyst for Innovation

- Common standards for technical documents is a catalyst for innovation.

- AI algorithms can easily analyse and understand large volumes of data presented in standardised formats.

- Once the AI has become familiar with a system, it can provide diagnostics and repair assistance to maintenance technicians.

- Aviation document formats are particularly well suited to the machine learning processes that AI platforms use.

AI Excels Where Humans Struggle - Large Volumes of Data

- Large volumes of technical documents can be difficult for humans to review rapidly, but machines excel here.

- They can complement existing human capabilities and make the jobs of technicians using these formats easier.

- AI enables the simplification of complex systems and will result in an increased adoption of standardised, easy to access documentation.

Thank You

for your attention!

Questions?

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