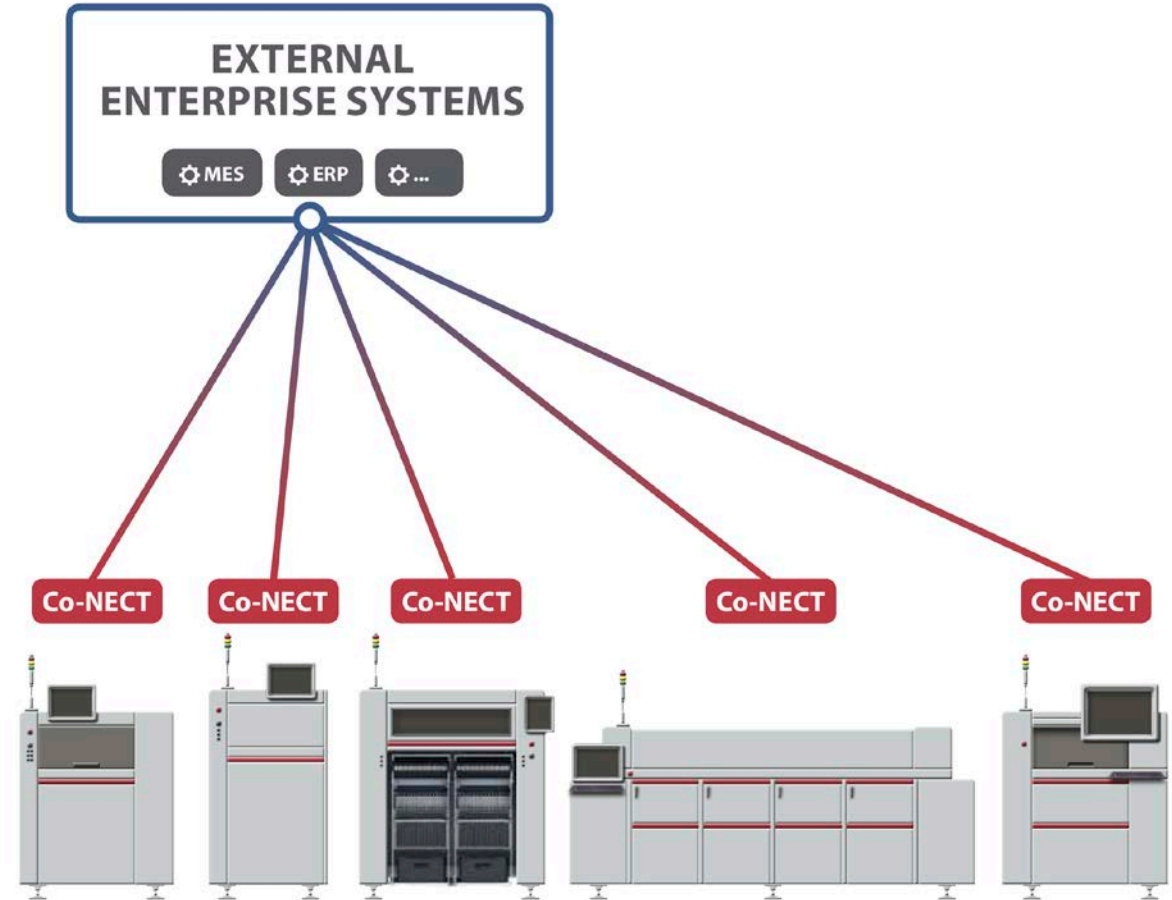# Co-NECT Machine Interface

- Co-NECT is a neutral connectivity machine interface that can run on any machine or computer.

- Provides data connectivity to achieve Smart Factory goals.

- Chosen by leading machine and software vendors in the electronics manufacturing industry.
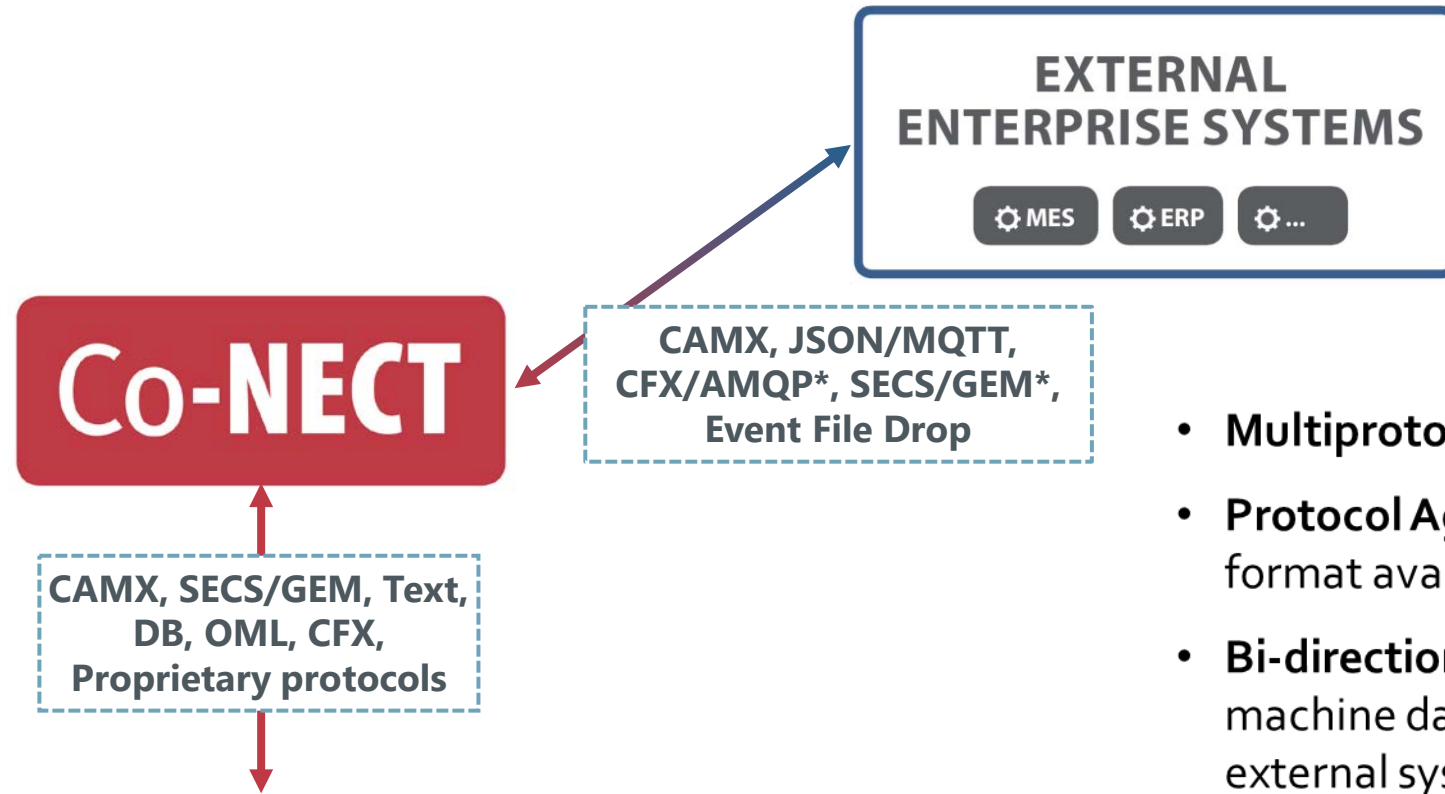
Co-NECT Features

The critical first step in your Smart Factory journey...

- **Modular:** Adapts to any customer's manufacturing ecosystem

- **Comprehensive:** Same solution across different machine types, models, vintages, and capabilities

- **Flexible**: Supports all present and future industry standards

- **Mature:** Includes proprietary interfaces from leading equipment and software vendors

- **Configurable:** Integrates with third party applications to enrich collected data

- **Scalable:** Compatible with Cogiscan's Data Management and TTC Applications

Co-NECT How it works

EXTERNAL ENTERPRISE SYSTEMS

⚙ MES ⚙ ERP ⚙ ...

Co-NECT

CAMX, JSON/MQTT, CFX/AMQP*, SECS/GEM*, Event File Drop

CAMX, SECS/GEM, Text, DB, OML, CFX, Proprietary protocols

- **Multiprotocol:** for both data input and output

- **Protocol Agnostic:** collects any machine data format available

- **Bi-directional communication:** receives machine data input and takes commands from external systems back to connected machines

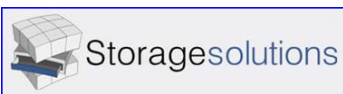- **Simultaneous output:** multiple protocols sent from a single interface
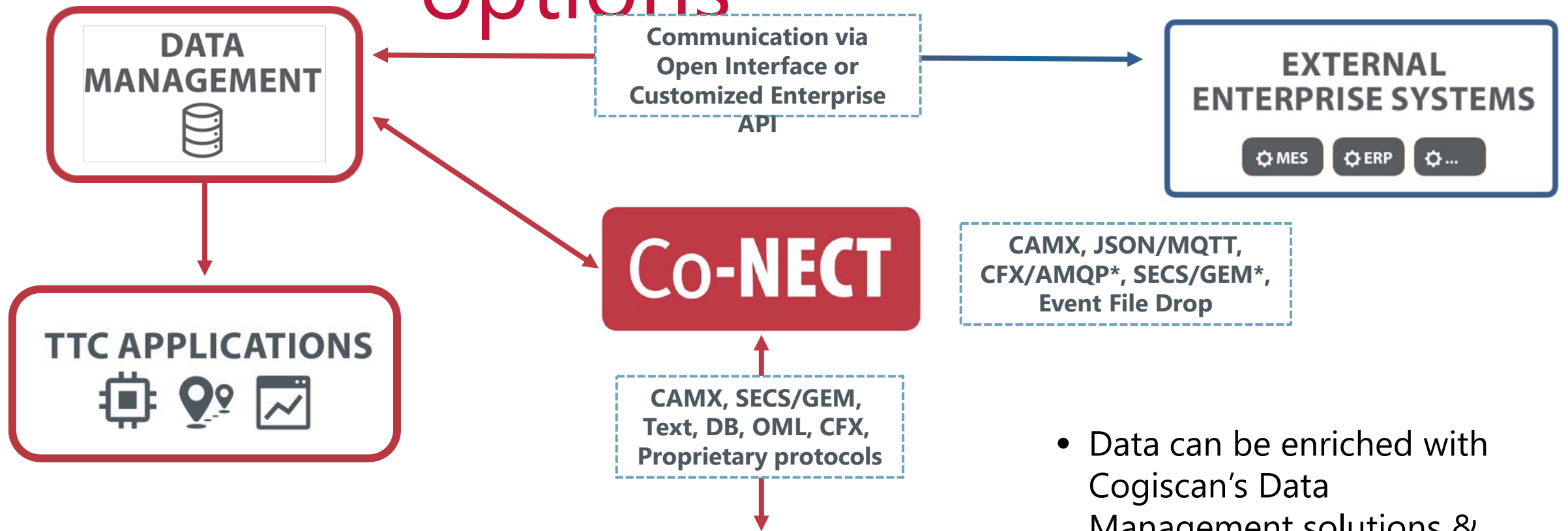
* Currently under development

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Co-NECT Data collection

Machine Type	Data Collected **
Printer	Program Name, Process Data, Machine State, Paste Verification, Traceability Data
SPI & AOI	Program Name, Test Results, Defect Data, Traceability Data
Placement Machine	Recipe, Program Name, Changeover Request, Machine State, Reference Designator Info., Material Tracking, Low Level Warning, Feeder Load-Unload Events, Board Start Event, Mispick Events, Feeder Location, Traceability Data
Oven	Program Name, Process Control, Machine State, Traceability Data
Wave & Selective Solder	Program Name, Process Data, Automatic Changeover, Traceability Data
Inventory Storage Tower	Raw Material Initialization, Material Deletion, Material Quantity Updates, Material Load & Unload, Automatic Material Request

** **Available machine data is dependent on machine's vendor, model, and software**

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Co-NECT Interface Library *(partial listing)*

ASYS GROUP · NUTEK · JUKI · Panasonic · FUJI · ASM Assembly Systems · Universal · YAMAHA · MIRTEC · SAKI · PARMI · MYCRONIC · Kulicke & Soffa · HITACHI Inspire the Next · KOH YOUNG TECHNOLOGY INTELLIGENT INSPECTION · OMRON · VISCOM vision technology · DEK · ITW EAE · VI TECHNOLOGY · TRI innovation · MVP · ORPRO Vision · EKRA · PVA · CYBEROPTICS Technology Leadership. Global Solutions. · CKD · mek marantz electronics ltd · TERADYNE · CHECKSUM · Nikon · HELLER INDUSTRIES · Vitronics Soltec · Storage solutions · essemtec swiss made · INOVAXE INNOVATIVE MATERIAL HANDLING SOLUTIONS · kurtz ersa Kurtz GmbH · THERMAL SYSTEMS · KIC Making Ovens Smarter · Totech · MIMOT the art of flexible SMT manufacturing · SCIENSCOPE · SMIC · SEHO Soldering is our Passion · TAMURA

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Data enrichment options

Co-NECT

DATA MANAGEMENT

Communication via Open Interface or Customized Enterprise API

EXTERNAL ENTERPRISE SYSTEMS
- MES
- ERP
- ...

Co-NECT

CAMX, JSON/MQTT, CFX/AMQP*, SECS/GEM*, Event File Drop

TTC APPLICATIONS

CAMX, SECS/GEM, Text, DB, OML, CFX, Proprietary protocols

- Data can be enriched with Cogiscan's Data Management solutions & Track Trace & Control (TTC) Applications or other 3rd Party Applications

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Co-NECT Typical use cases

Solutions enabled by collected machine data*

Sharing & Synchronizing data across different machine brands and types
- Enables factory-wide TTC, Visibility, & Analytics across all operations

Closed-Loop Solutions
- Connecting Inventory Towers to Placement Machines
- Connecting Pick and Place to AOI Machine
- Connecting Screen Printer to SPI Machine

Enterprise Systems Integration
- Bi-Directional communication with enterprise level systems (MES, ERP, etc.)

* Requires a host SW (Cogiscan or 3rd Party)

Co-**NECT** Testimonials

> **One of the critical elements of our Smart Factory roadmap is the acquisition of quality real-time data from the SMT machines. This is not easily achieved in a production environment like ours because of the large number, variety and vintage of machines that we use. Our in-depth evaluation and real-life production testing demonstrated that Cogiscan's Co-NECT technology is by far the best solution on the market. It can get more data from any machine that any other alternative.**

Michael Lo, Director of SMT Council, Haina

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Co-NECT Equipment partnerships

"We look to Cogiscan to help us be that connectivity for a lot of our interfaces. We use them for our intelligent feeder system, and they've developed the 'Co-NECT' software that allows us to connect to storage towers, and also now with CFX." **Bill Astle, President & CEO**

"In addition to CFX, Universal relies on the Co-NECT platform to support other required protocols, such as CAMX or SECS/GEM, as well as customer-specific integration requirements." **Todd Vick, Director of Marketing**

"The reason why we chose Cogiscan is that there are so many standards out there, that there is no real standard. We need to communicate with all machines…" **Brian D'Amico, President**

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Co-NECT Equipment partnerships

ESSEGI SYSTEM SERVICE | Storagesolutions.it division

"By collaborating with Cogiscan we are able to implement their robust off-the-shelf Co-NECT interfaces for all major brands of SMT equipment, so our customers can easily integrate our solutions within any production environment." **Matteo Padoan, COO**

"Keysight's PathWave ...combined with Cogiscan's Track, Trace and Control solutions enables data collection and acquisition throughout the entire electronics PCBA manufacturing line..." **Daniel Mak, Sr. R&D Director**

KEYSIGHT TECHNOLOGIES

ITW EAE

"For me, the key strengths of Cogiscan are service, technology, and quality... In our drive to Industry 4.0, we think having Cogiscan as a partner is absolutely essential." **Mark Clemons, Business Unit Manager - Printers**

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