

LonWorks Migration Playbook & Next-Gen Options

What Comes Next — and How
to Get There

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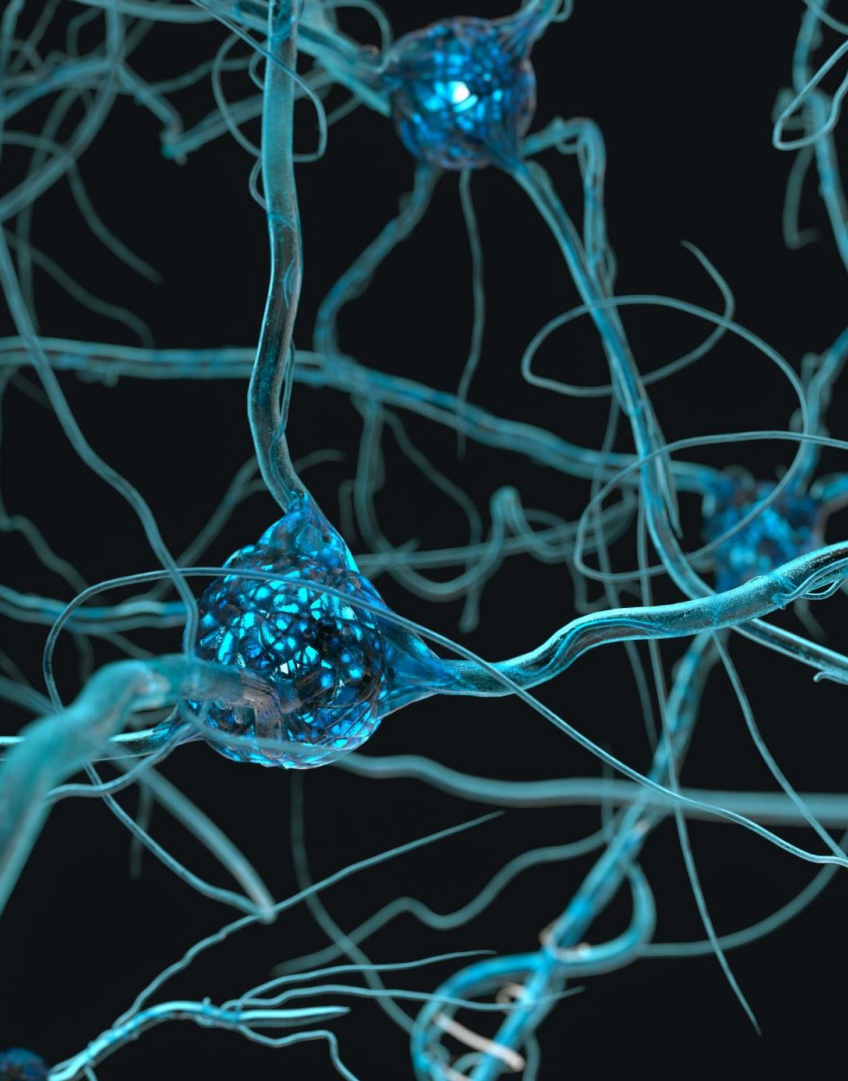
LonWorks was ahead of its time!



Why This Session Exists

- LonWorks is still running real buildings
- Those systems still deliver value
- The environment around them has changed
- This session is about clarity, not panic



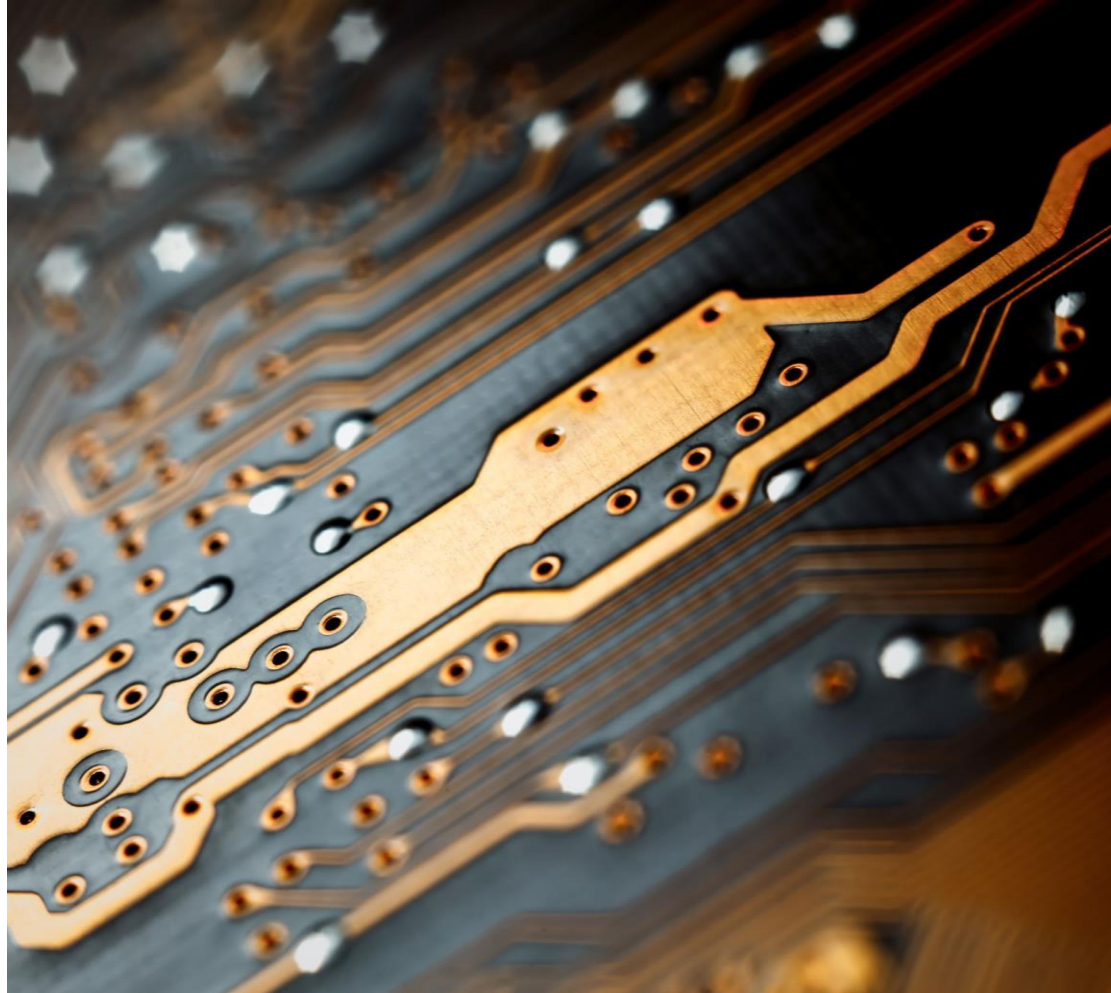


What You'll Leave With

- Understand what the Neuron EOL really means
- See viable migration paths that exist today
- Learn LonMark's role in the transition
- Learn about available resources
- Understand where LonWorks fits in an open ecosystem

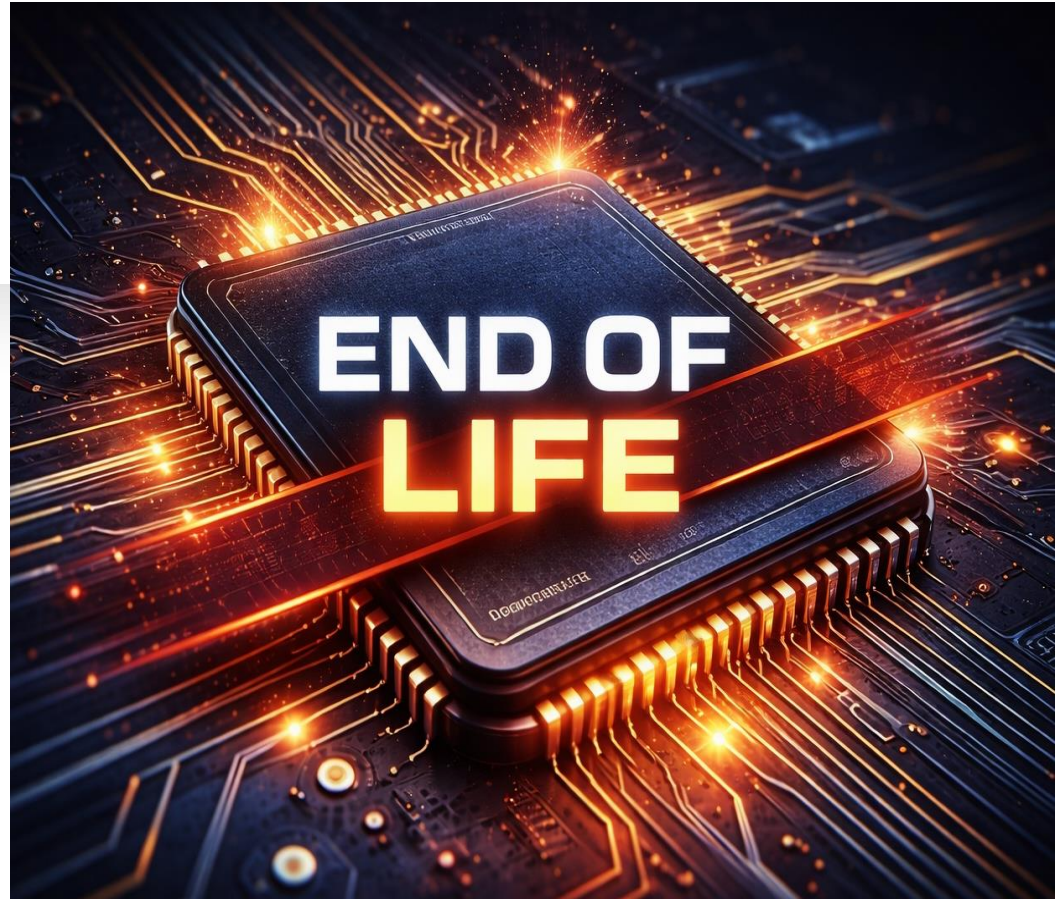
What Happened to the Neuron Chip

- Ownership and market transitions
- Declining volumes
- Aging fabrication processes
- Transceiver component EOLs



What the EOL Means (and Doesn't)

- Installed systems continue to operate
- Devices do not suddenly fail
- LonWorks protocol is not discontinued
- Constraint is Neuron silicon availability



A Better Way to Think About Migration

- Migration is not one thing
- Short-term continuity
- Mid-term redesign
- Long-term architectural evolution





The Migration Playbook

- Assess what you have
- Decide what stays
- Identify what evolves
- Choose how you extend and integrate

Migration Lanes

- Bridge & sustain existing systems
- Replace proprietary silicon
- Elevate architecture with IP and software



Maintain and Sustain LonWorks-based Options

- Last Time Buys (unfortunately most have passed)
 - Renesas for chips
 - EnOcean for tools and hardware
 - OEM suppliers
- New Silicon options
 - Development boards & kits
 - Reference designs enabling manufacturers and OEM's
 - Direct replacement parts
- DIY options
 - Git Hub Repository (<https://github.com/LonMarkTech>)
- Gateways/bridges other protocols/systems
 - Bridging existing systems to new systems and add-ons



Options to Upgrade and Replace LonWorks

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Fetron

Your development partner for custom solutions

Powerful, independent, interoperable LON platform

Robust: Our Fetron stack is a reliable and versatile solution for the LON®

Features

- One-chip solution
- Economical processors
- Compatibility files
- Minimum open Zephyr, FreeRTOS
- Scalable design
- Thanks to the comparable LON
- Fully ISO15724 compliant
- Up to 4096 nodes
- Supports multiple protocols
- Compact components
- Available as a kit
- Eval kit base

Data Sheet

BV2021-8

LonWorks FTLP Compatible Communications Transceiver

Description

The BV2021-8 is a Communications Transceiver for LonWorks FTLP. It is designed to be used in conjunction with the BV2021-4. Originally, the BV2021-8 was designed to be used in conjunction with the BV2021-4. Due to its very small size, the BV2021-8 may be used as a replacement for the BV2021-4 in a small footprint of the whole LonWorks system.

The BV2021-8 has been designed and tested specifically for the small size of this surface-mount component. The maximum operating temperature is 105°C. The maximum storage temperature is 150°C. The maximum relative humidity is 95%.

Application Notes

While the BV2021-8 is suitable for numerous applications, it is recommended to verify and decide if this part fits your specific application. Further design details of the BV2021-8 are available in the application notes.

Table:

Part No.	Description	Quantity
1	BV2021-8	1
2	BV2021-4	1
3	BV2021-4	1
4	BV2021-4	1
5	BV2021-4	1
6	BV2021-4	1
7	BV2021-4	1
8	BV2021-4	1
9	BV2021-4	1
10	BV2021-4	1
11	BV2021-4	1
12	BV2021-4	1
13	BV2021-4	1
14	BV2021-4	1
15	BV2021-4	1
16	BV2021-4	1
17	BV2021-4	1
18	BV2021-4	1
19	BV2021-4	1
20	BV2021-4	1

- Silicon & schematics
- LON + other protocols
- Development tools
- Supporting parts

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LonMarkTech / lon-stack-dx-imi

Code | Issues | Pull requests | Projects | Security | Insights

master | 1 branch | 0 tags

LonMarkTech Editorial change

- Adapt Add files via upload
- Winload Add files via upload
- WinLib Add files via upload
- cStackApp Add files via upload
- cStackLtv Add files via upload
- pal Add files via upload
- BulbOptions.h Add files via upload
- EdtVersion.h Add files via upload
- EchelonStandardDefinitions.h Add files via upload
- LICENSE Initial commit

ECOLINQX™

The Power Line Communication Experts!

BRIDGIT™-BAS System-on-Module

Upgrade your existing wiring infrastructure into a modern, high-speed, secure network with the BRIDGIT™-BAS SoM.

This compact transceiver delivers exceptional capability in a small footprint, operating as a full Layer-2 switch to provide effortless, plug-and-play serial bridging across virtually any powered or unpowered wiring. It's a simple drop-in upgrade that unlocks next-generation performance for building automation systems.

- Fully Integrated, Low-Power, Low-Cost Nessum Transceiver
- Lowest Installation Cost – No new wiring!
- **Supported Protocols:**
 - Lonmark
 - BACnet MS/TP
 - ModBus RTU
- Speeds from 1Mbps to 100Mbps
- >200 messages per second
- Crypto-strong AES-128 engine
- Supports 1024 nodes
- Free Topology, with Auto-discovery
- Range of more than 2,000m
- Works on any wire!

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ECOLINQX

Babi-LON™ by safesquare & Occitaline

Open Systems Solution for LON and BACnet Applications

safesquare

safesquare offers reliable and safe solutions for LonWorks automation and related engineering services. In the field of market with complex solutions for applications such as heating, Mirko, room thermal comfort and fire protection, safesquare also offers a large number of training courses on the different protocols.

Occitaline Automation Drives

Occitaline is a manufacturer of innovative remote infrastructure products used in BMS, Occitaline has real knowledge of BMS products with a long experience in the field with the support of manufacturers and integrators. The product range is designed, manufactured and supported by Occitaline.

Features

- Fully compatible with:
 - EN 14983-1 (LonMark)
 - EN 14983-2 (FTLP)
 - EN 14983-3 (Powerline)
 - ISO 15724-1 (Open Lon)
 - ISO 15724-2 (Open Lon)
 - ISO 15724-3 (Open Lon)
 - ISO 15724-4 (Open Lon)
 - ISO 15724-5 (Open Lon)
 - ISO 15724-6 (Open Lon)
 - ISO 15724-7 (Open Lon)
 - ISO 15724-8 (Open Lon)
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 - ISO 15724-98 (Open Lon)
 - ISO 15724-99 (Open Lon)
 - ISO 15724-100 (Open Lon)





The Power Line Communication Experts!

BRIDGIT™-BAS System-on-Module

Upgrade your existing wiring infrastructure into a modern, high-speed, secure network with the BRIDGIT™-BAS SoM. This compact transceiver delivers exceptional capability in a small footprint, operating as a full Layer-2 switch to provide effortless, plug-and-play serial bridging across virtually any powered or unpowered wiring. It's a simple drop-in upgrade that unlocks next-generation performance for building automation systems.

- ❖ Fully Integrated, Low-Power, Low-Cost Nessum Transceiver

- ❖ Lowest Installation Cost – No new wiring!

- ❖ **Supported Protocols:**

- ❖ **Lonmark**

- ❖ **BACnet MS/TP**

- ❖ **ModBus RTU**

- ❖ Speeds from 1Mbps to 100Mbps

- ❖ >200 messages per second

- ❖ Crypto-strong AES-128 engine

- ❖ Supports 1024 nodes

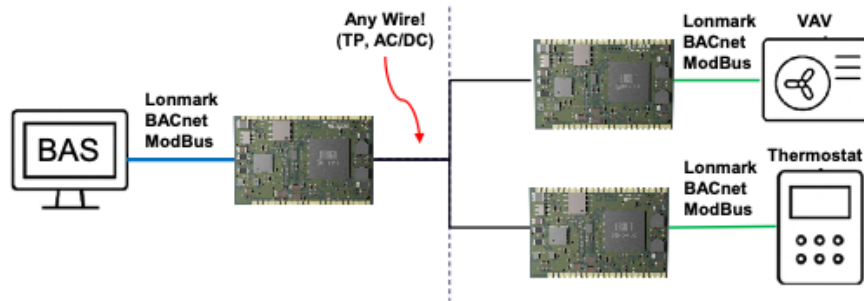
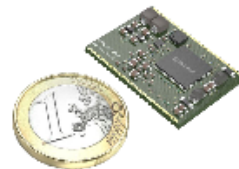
- ❖ Free Topology, with Auto-discovery

- ❖ Range of more than 2,000m

- ❖ Works on any wire!

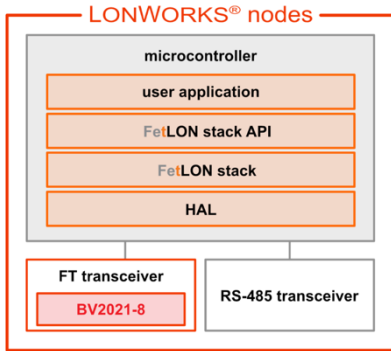


- Silicon & schematics
- LON + other protocols
- Development tools



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- Silicon & schematics
- Development tools
- Supporting parts



- ISO/IEC 14908-1 layer 6 – 7
- ISO/IEC 14908-1 layer 2 – 5
- ISO/IEC 14908-2 layer 1

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Fetron

Your development partner for custom solutions

Features

- One-chip solution
- Economical and fast prototyping
- Compatibility with various microcontrollers
- Minimum operation time
- Scalable design
- Thanks to the compact design, it is comparable to other LONWORKS nodes
- Fully ISO/IEC 14908-1 compliant
- Up to 4096 nodes per network
- Supports multiple protocols
- The software is easy to use
- Compact design
- Available as a kit or as a module
- Eval kit based

Robust: Our FetLON stack is a reliable and robust protocol.

Patented: Our proprietary differential Manchester processing of the LON® protocol allows the manufacturer-independent implementation of the FetLON stack.

Simple: Our FetLON stack allows the manufacturer-independent implementation of the FetLON stack.

Flexible: Our FetLON stack provides a high degree of flexibility in terms of technology dependencies.

Compact: Due to its small size and simple design, the BV2021-8 allows for a compact design.

Budget: Low component costs

Data Sheet
BV2021-8
LonWorks FT/LP Compatible Communications Transformer

Description
The BV2021-8 is a Communications Transformer compatible with LonWorks Free Topology and Link Power networks using the ISO/IEC 14908-1 (ANSI/C3A.75) I/O of the V5688-1 Control Network Protocol Transformer. Moreover, it can be used with the FT 6020 Smart Transformer as well as with other state-of-the-art microcontrollers that incorporate the FetLON stack.

Due to its very small size the BV2021-8 may be used as an alternative to the FT-33 Transformer in a small form factor of the who LonWorks interface in a high product requirement specification.

As a tribute to the small size of the surface-mounted part, the following deviations from the FT-33 compatibility specification have to be observed:

- **Wiring:** The maximum cable length of the BV2021-8 between network and the Free Topology communications controller is 60 m at 10 kbps and 300 m at 100 kbps according to IEC 60501.
- **Coupling Capacitors:** The maximum coupling capacitor between primary and secondary winding of the BV2021-8 must be neither using SMD testing of the product.
- **Operating Temperature:** The BV2021-8 is designed for a nominal operating temperature range of -40°C which is sufficient for most indoor applications.
- **Maximum stable operating temperature range of this part is restricted to -25°C ... +85°C.**

Application Notes
While the BV2021-8 is suitable for numerous applications, e.g. building automation purposes, the customer has to verify and decide if this part fits his specific product and application requirements. See also the restrictions mentioned above.

Further design details of the BV2021-8 are shown on the drawings on the next pages.

Table 1: Component Values

Name	Value
VR1	470 nF
VR2	100 nF
C1, C2	220 pF
D1, D2	1N4148
Ba1	2.0
Ba2	2.0
TR1	RS1
D3, D4	Ba1 2.0
R2	4.7
C3, C4	56 pF
R1	3.3
CS	330

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Further information on the who FetLON

FetLON
Modular LON-Stack

Home LonTalk Contact

FetLON: The Flexible, Compact And Independent LON® Stack

The freedom to run LON® anywhere - with the FetLON Stack.

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EnOcean's Network Interfaces



U10 FT USB



U60 FT USB DIN
U60 TP-1250 USB DIN



U60 FT USB Module

- LON network interfaces provide LON network connectivity for edge servers, controllers, and Windows computers
- EnOcean's U10 and U60 products were impacted by the Renesas LON component discontinuation
- EnOcean is developing new U10 and U60 products
 - Fully compatible with the legacy U10 and U60 products
 - No Renesas LON components
 - Based on a standard non-proprietary ARM processor

EnOcean's Commissioning and Integration Tools

- EnOcean tools for LON
 - **OpenLDV** – EnOcean's extensible Windows driver for the U10 and U60
 - **IzoT Net Server** – LON network management middleware
 - **IzoT CT** – LON installation tool for Windows
- Current versions of IzoT Net Server and IzoT CT have been discontinued
 - Due to discontinuation of the internal database manager by a supplier
 - No impact on tools or keys that were shipped by Echelon, Adesto, Dialog, Renesas, or EnOcean prior to February 1, 2026
 - No impact on OpenLDV – EnOcean continues to distribute and support OpenLDV, and OpenLDV continues to be free
- EnOcean is developing new IzoT Net Server and IzoT CT products
 - Compatible with the legacy products with the same features
 - Incorporating a standard open-source database manager
 - Compatible licensing – unused keys distributed by EnOcean prior to February 1, 2026, will work with the new products

Loytec Routers and Interfaces for LON



Routers, NIC

L-IP Router CEA-709



The L-IP Router connects twisted pair channels (TP/FT-10 or TP/XF-1250) with the Ethernet/IP channel (IP-852) in LonMark Systems.

[Read more ... L-IP Router CEA-709](#)

L-IP Router BACnet



The LIP-ME201C, LIP-ME202C, and LIP-ME204C BACnet/IP Routers connect BACnet MS/TP channels to a BACnet/IP network. The BACnet routers are compliant with the standards ASHRAE 135-2012 and ISO 16484-5:2012.

[Read more ... L-IP Router BACnet](#)

NIC



LOYTEC NICs are the most universal network interfaces for CEA-709 and IP-852 (Ethernet/IP) channels.

[Read more ... NIC](#)

LPA



The LOYTEC Protocol Analyzer (LPA) for LonMark Systems captures all data packets on CEA-709 or IP-852 networks and displays all recorded packets on a PC screen.

[Read more ... LPA](#)

NO dependency on Neuron chips!

Maintain Open Data & Interoperability

- Avoid single-vendor dependency
- Enable long-term sustainability
- Support interoperability
- Align with modern IT/OT expectations

30 Years of effort

The Future of LonMark, C4SB & Linux Foundation



- C4SB is part of the Linux Foundation
- LonMark aligning under C4SB umbrella
- Open governance and ecosystem growth
- Community-driven future

Q & A



Tracy Markie

LonMark – Chairman of the Board
Engenuity Systems - CEO

