The HDBaseT Alliance

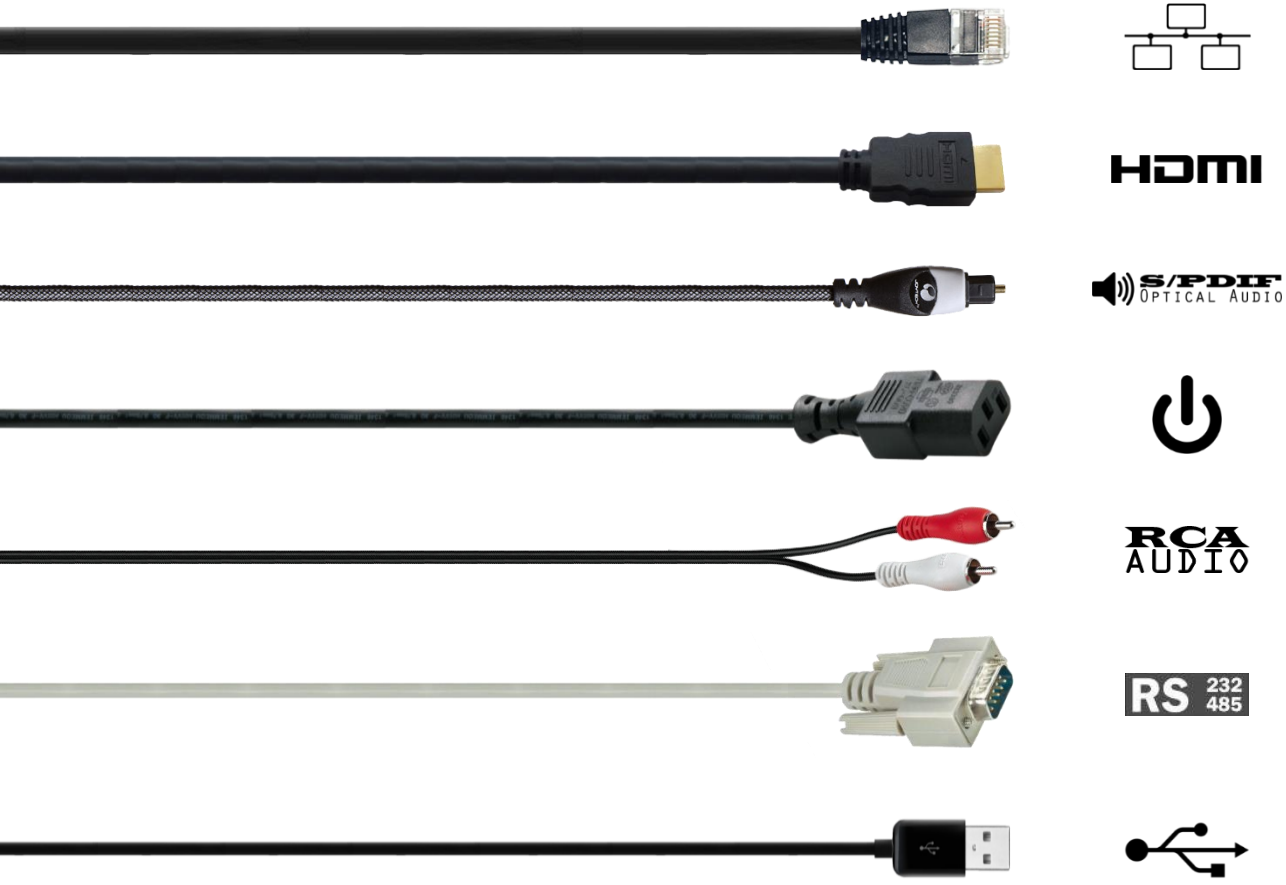
Tzahi Madgar, Vice President

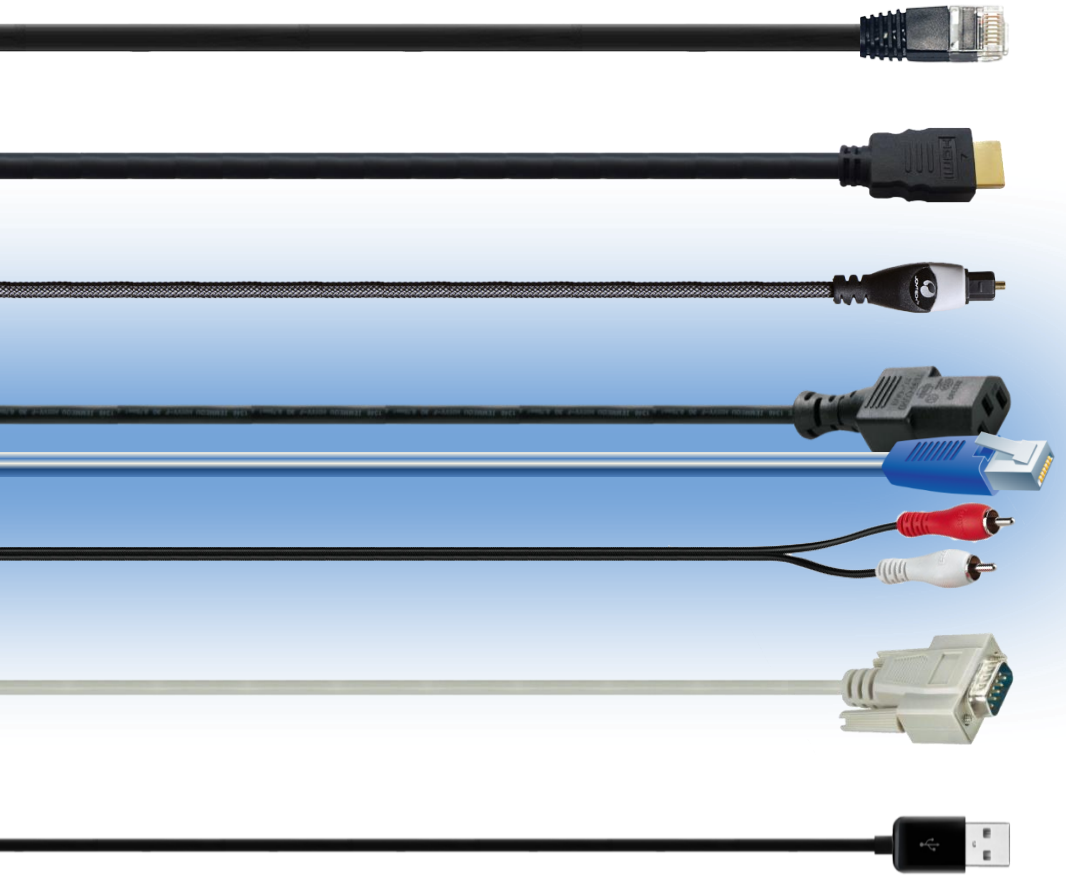
We Live in an
HDBaseT World!

HDBaseT Alliance Goal

To **standardize & promote HDBaseT technology** as the **global standard** for the transmission of **uncompressed ultra-HD** multimedia content for professional AV, automotive, industrial and consumer applications

What is HDBaseT Technology?


HDMI
S/PDIF
OPTICAL AUDIO
RCA
AUDIO
RS 232
485



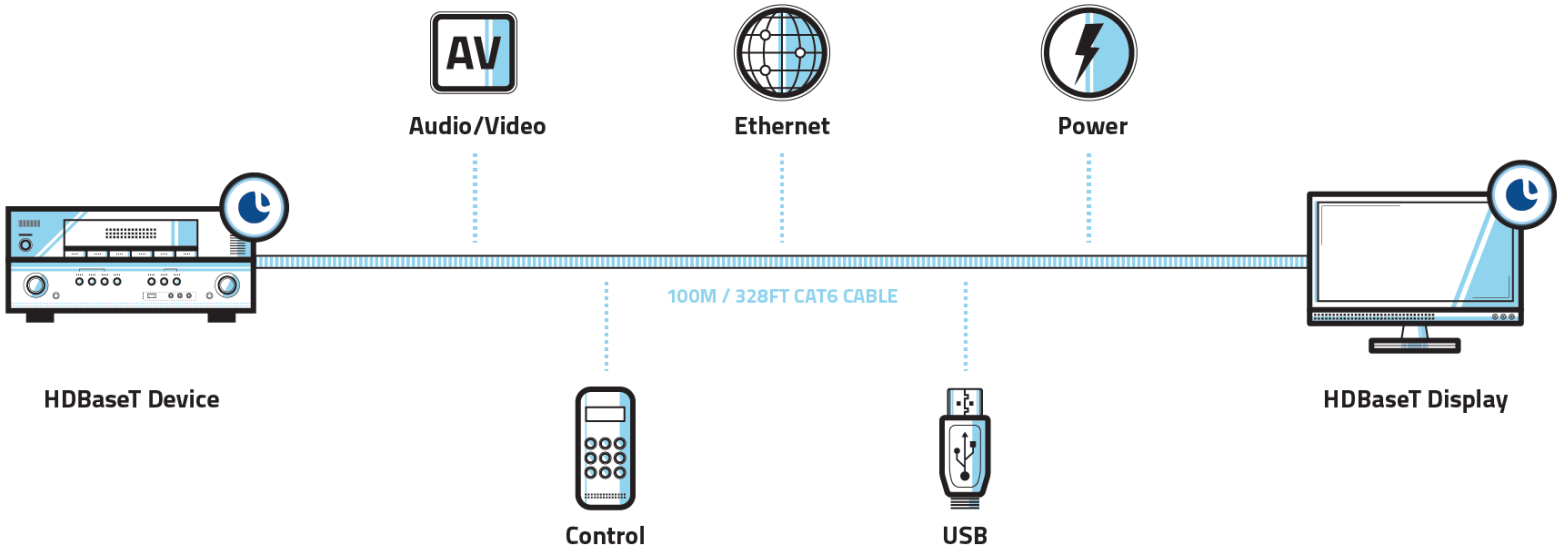
HDBT™

The Ultimate Standard of **Digital Connectivity**

Over a **Single Cable**

HDBT™

HDBaseT: 5Play Convergence on a Single Cable



HDBaseT Has Conquered the AV World

RECEIVERS

SWITCHES

PROJECTORS

DISPLAYS

Thousands of HDBaseT Products in the Market

Panasonic NEC EPSON SONY Extron ONKYO Pioneer WÜRTH ELEKTRONIK

belkin CHRISTIE HITACHI CRESTRON AMX PHILIPS

Over 180 HDBaseT Alliance Members

HDBT™

And the Emmy goes to…

Valens HDBT™

Winner of a 67th Annual Technology & Engineering Emmy® Award

The Alliance Community

The HDBaseT Alliance

More than 200 Members

The HDBaseT Alliance

200+ members, addressing Pro-Audiovisual, Consumer Electronics, Automotive, Industrial PCs, Medical and more

Introducing HDBaseT Worlds

HDBaseT
Audiovisual

HDBaseT
Automotive

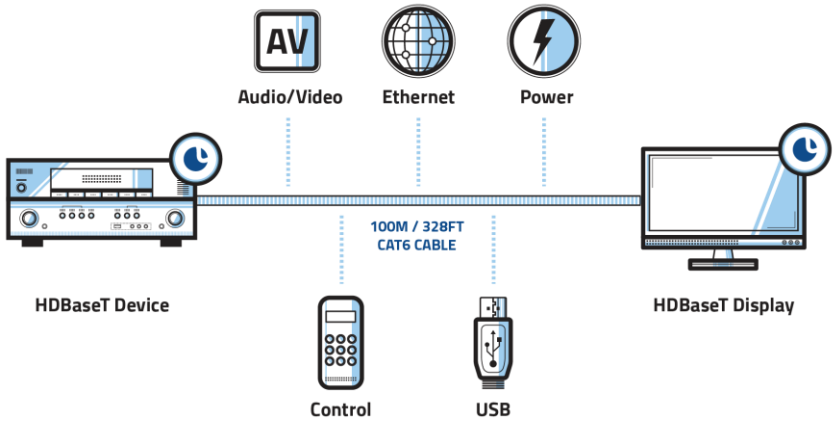
HDBaseT
Industrial

HDBaseT
Consumer

HDBaseT Audiovisual

HDBaseT Audiovisual: The One-cable Standard for Digital Connectivity

- All major pro-AV manufacturers are Alliance members, leveraging the strength of the HDBaseT community to promote their business
- Thousands of products in the market: switches, projectors, receivers, extenders and more
- **Membership benefits include participating in the global HDBaseT community, certification process for interoperability and marketing promotion**



Benefit from Your Membership

Membership provides you with marketing support and bolsters your reputation in the industry

Tradeshows

Installer Zone

Sponsored Marketing

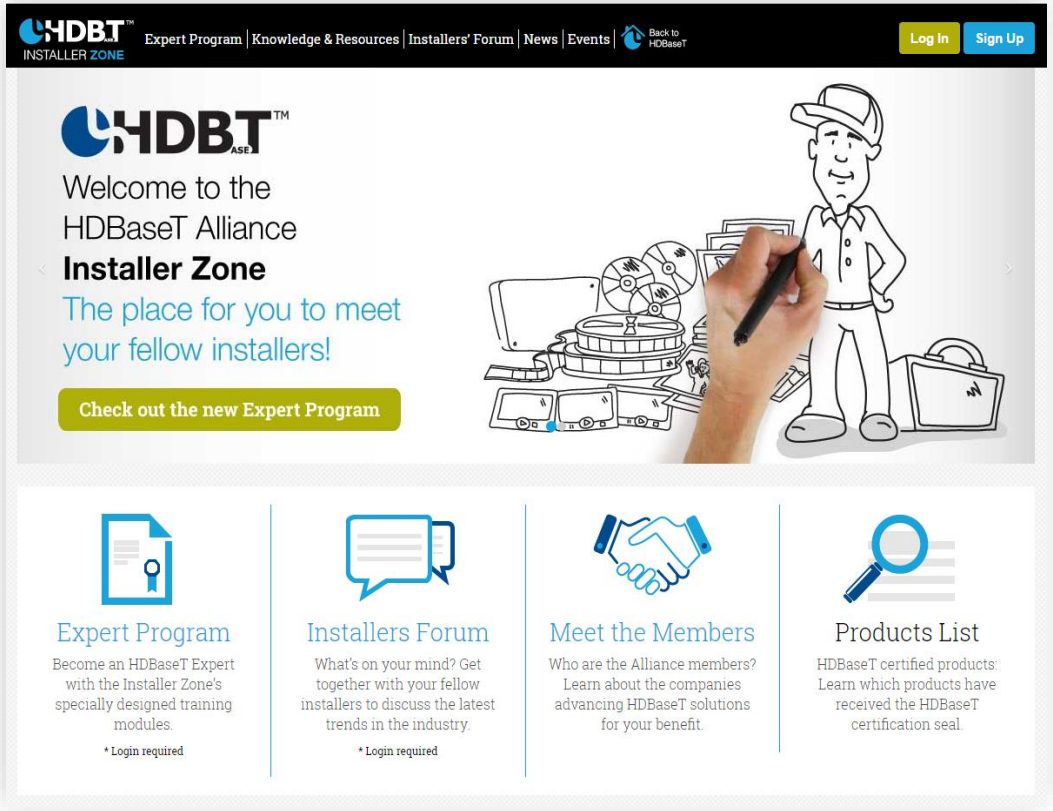
HDBT™ World
GEFEN
Join the HDBT Community Here
We live in an HDBT World
Welcome to the HDBT Academy
AJA
RovoCam
Absolute
BLACK BOX
W-5

HDBT World
Welcome to the
HDBT Academy
HDBaseT World by
HALL RESEARCH
PULSEEIGHT
Valens
quantumdata
neo
HDBT

Stand-in-a-Stand Initiative

Cost-effective marketing leverages the Alliance umbrella to spotlight our Members' solutions

Installer Zone: The HDBaseT Community

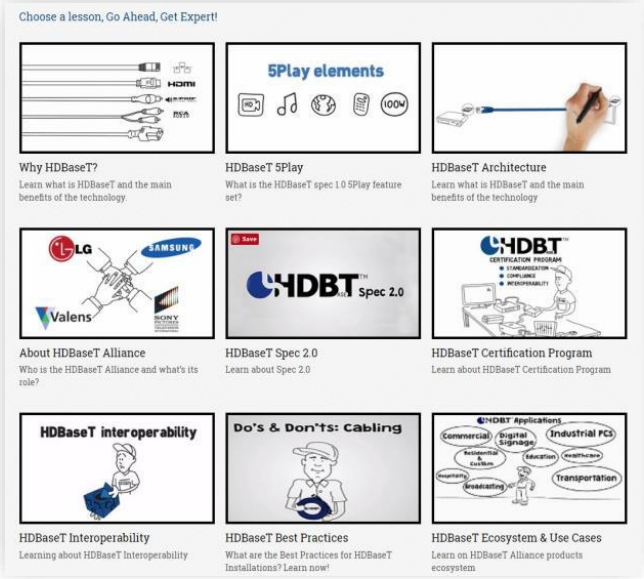


Online portal for optimized exposure of your company and products

Installer Expert Program

Onsite and online training sessions increase HDBaseT awareness

Onsite…



Online…

Onsite and online training sessions increase HDBaseT awareness

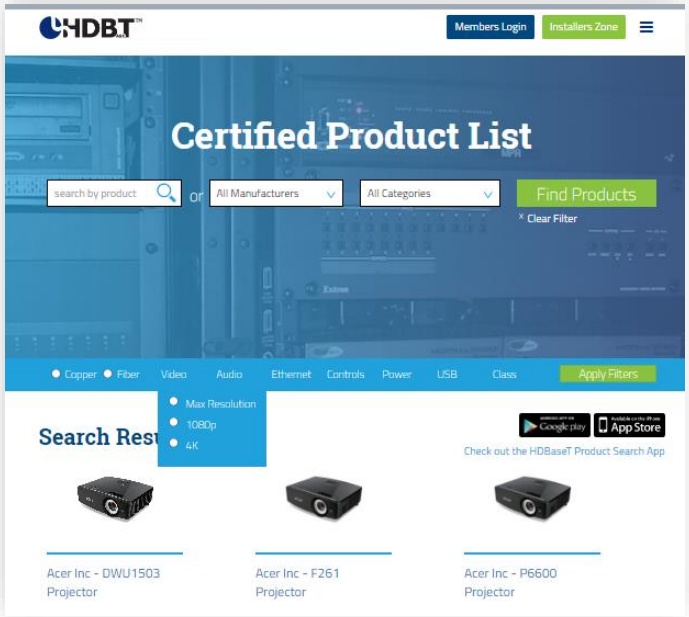
HDBaseT Product Certification Program Highlights

"The HDBaseT Product Certification Program provides members with a set standard for ensuring their products are compliant, interoperable and part of the established product ecosystem."

Ariel Sobelman, President, HDBaseT Alliance

HDBaseT Certification Benefits for Members

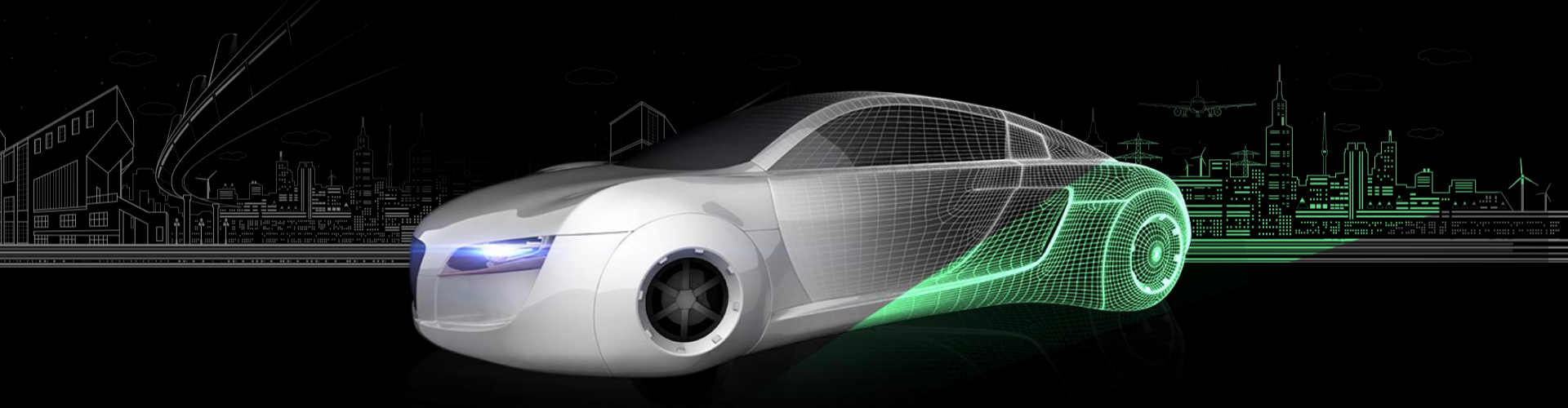
Inclusion in the Certified Product List on the Alliance website and in the smartphone app



HDBaseT Automotive

The Best of All Worlds in One Solution

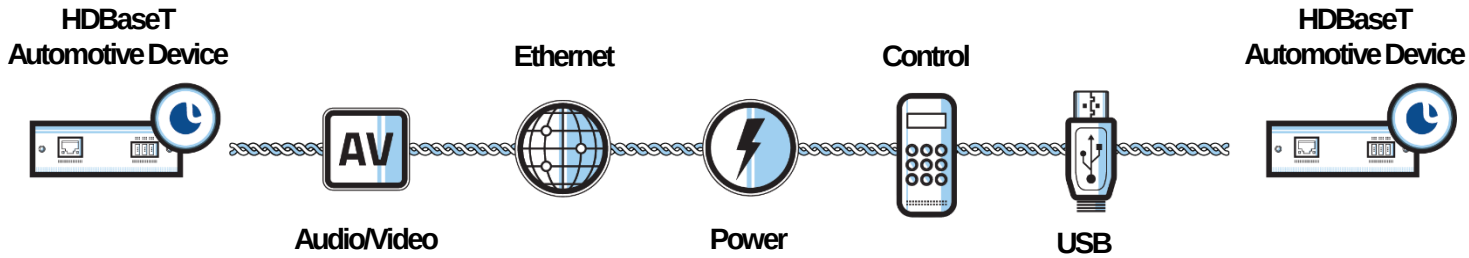
Valens' HDBaseT Automotive is the ultimate, feature-rich technology for in-vehicle connectivity, through the most, cost-effective and flexible infrastructure, for a superior end-user and system design experience



- High-Speed Transmission
- Lightweight Infrastructure
- Standard Technology
- Simple Installation
- Native Networking
- Low Cost Infrastructure

HDBaseT Automotive: The Ultimate Highway for In-vehicle Connectivity

- Introduced in early 2016, to address today's need for in-vehicle connectivity
- Establishment of the HDBaseT Automotive Working Group to finalize the standard and promote it with OEMs, Tier-1s, silicon vendors and more
- **Very positive initial traction: more than 10 automotive players have already joined the Alliance, including Daimler and Delphi as Contributors**



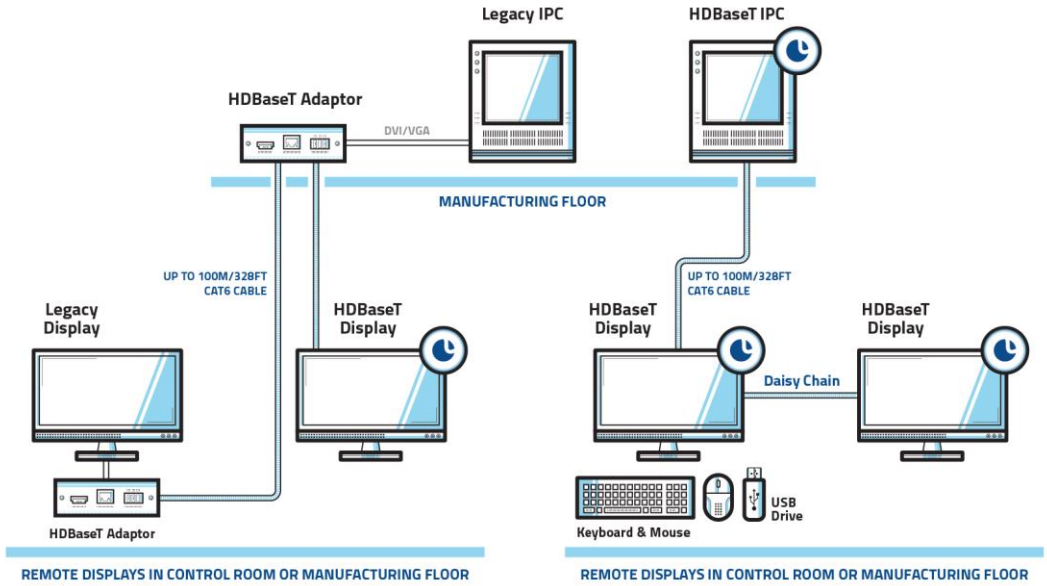
HDBaseT Automotive Working Group

- Established in 2015
- **Goal:** Finalize HDBaseT Automotive standard
- Current members include:

HDBaseT Industrial

HDBaseT Industrial: The Ultimate Solution for Industrial Computing Connectivity

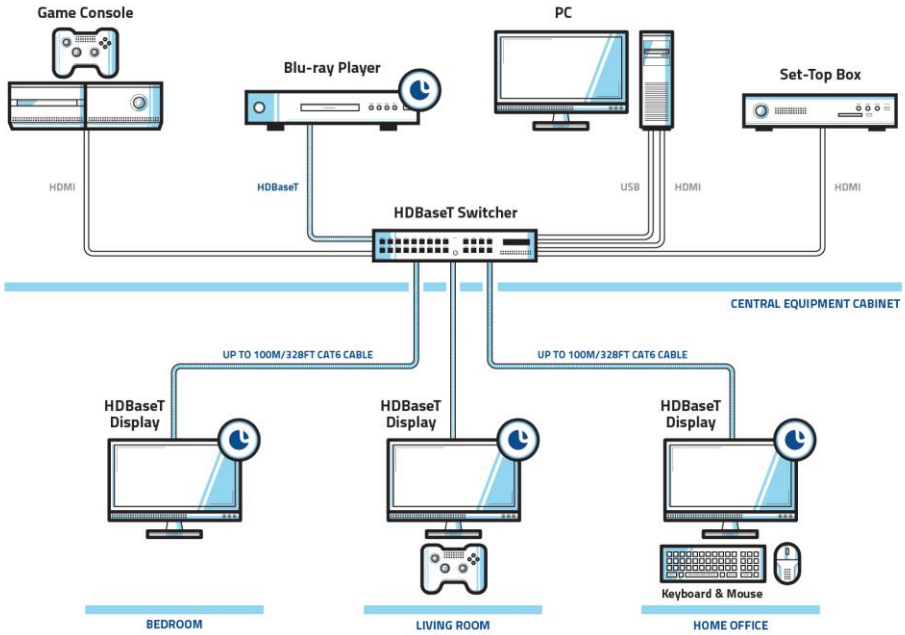
- Addressing the connectivity needs of manufacturing plants
- Major players in Europe and APAC are members
- Promotes interoperability and ease of use to end-users
- Activities in major IPC shows, such as Embedded and Electronica



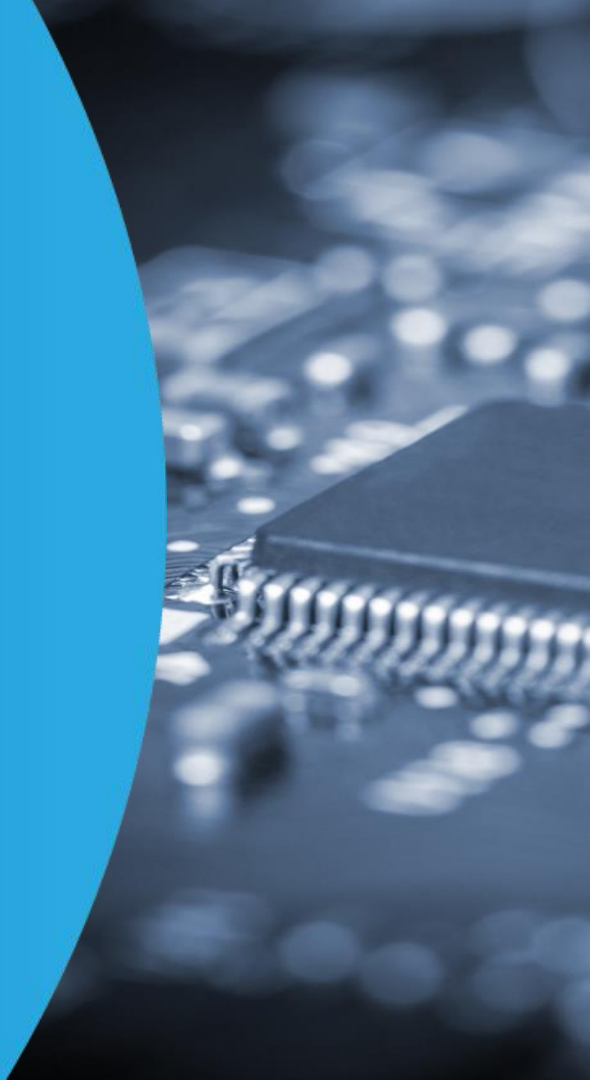
HDBaseT Consumer

HDBaseT Consumer: The Elegance of the One-cable Solution for Home Connectivity

- Elegance & performance in our connected homes
- Major consumer electronics brand are Alliance members: projectors, AV receivers, extenders and switches
- Promoting HDBaseT at major residential shows, such as CES, CEDIA, TecHomeX



DMTF & HDBaseT Collaborative Domain



Cyber Security Risks for HDBaseT

HDBaseT Security Needs

Threat Model

- Supply Chain Attacks (Fake parts installation)
- T-Packet tampering (modification, drop, injection) / eavesdropping

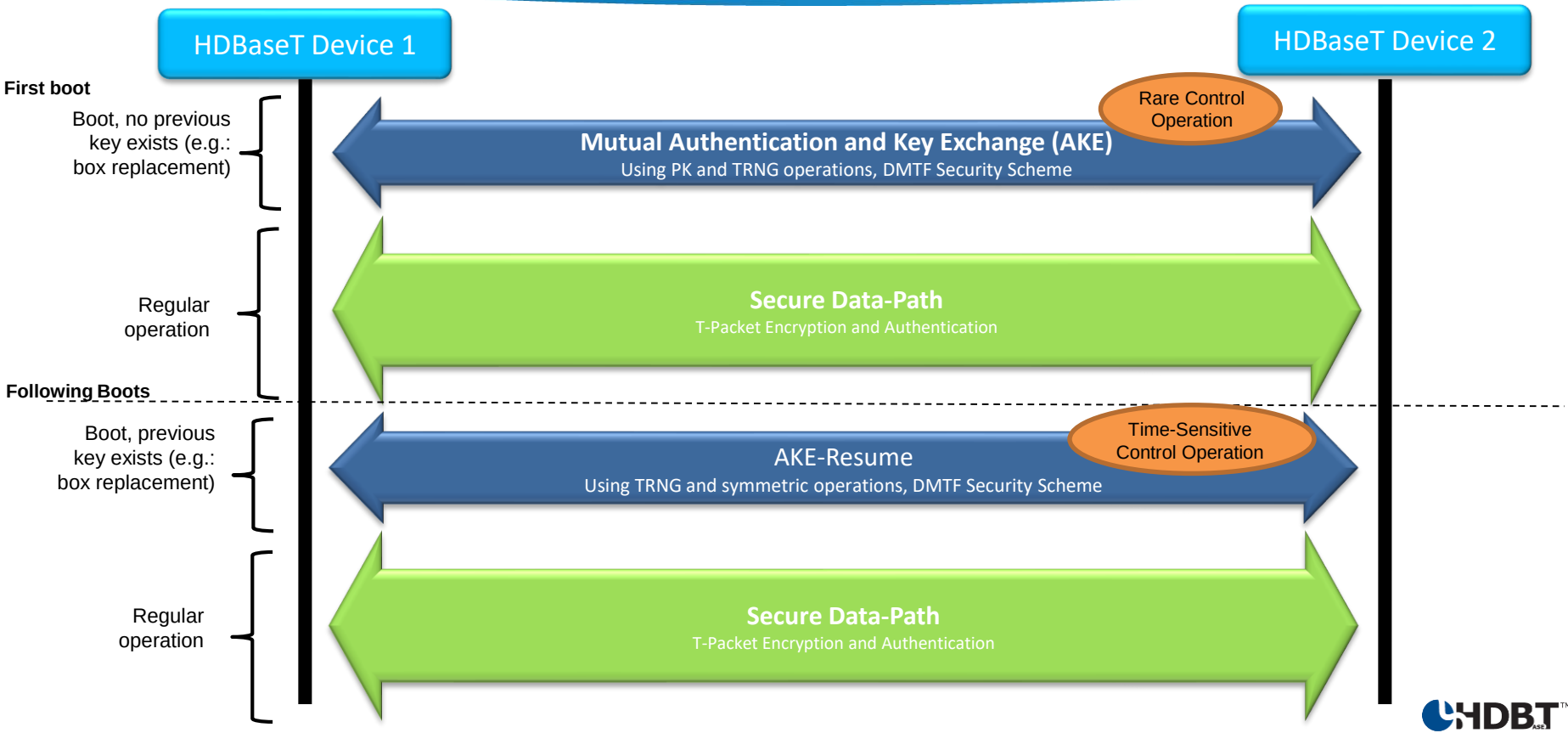
Desired Security Services

- Device Authentication
  - Towards peer-device and/or external controller
  - Includes device identity authentication and optional key-exchange protocols
  - Uses device certifications
- HDBaseT T-Packets Security (Encryption)
  - HDBaseT traffic end-to-end encryption & authentication
  - Secure end-to-end connections between HDBaseT devices

HDBaseT Security Services – Collaboration with DMTF

- About DMTF (from: https://www.dmtf.org/about):
  - *"The DMTF (formerly known as the Distributed Management Task Force) creates open manageability standards spanning diverse emerging and traditional IT infrastructures including cloud, virtualization, network, servers and storage. "*
- DMTF has formed a new Security Task Force within its Platform Management Components Intercommunication (PMCI) Working Group (from: https://www.dmtf.org/content/get-involved-dmtfs-pmci-security-task-force)
- The DMTF Security Scheme is based on USB Authentication Scheme, and is examined with high probability of adoption by PCI-SIG and MIPI Alliances
  - Some of the most important high-Bandwidth Native Interfaces carried over HDBaseT
- The HDBaseT Alliance becoming Alliance Partner with the DMTF, in the context of security, can allow for importing a wide-reviewed, stable, commonly adopted security solutions to the HDBaseT Network

HDBaseT Security Services - Components &Protocols - Example



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Thank You