



The image features a background of diagonal stripes in various shades of blue, green, orange, and red. The text "ENGINEER NEXT" is prominently displayed in white, with "ENGINEER" in a smaller font above "NEXT". A yellow graphic element, resembling a stylized 'X' or a folded ribbon, is positioned between the two words. To the left of "NEXT", the word "NIDays" is enclosed in a white rectangular box, tilted to match the angle of the main text.

ENGINEER  
NEXT

NIDays

# Présentation des racks 19' configurables et des composantes de systèmes pour équipements de test automatique

# Agenda

- ATE System Development: Then and Now
- Anatomy of an ATE Core Configuration
- Customizing Your ATE System
- System Completion and Deployment

# ATE System Development: Then and Now

# ATE Systems Require More Than Instrumentation

## Application-Specific Components

Test  
Fixtures

Mass  
Interconnects

Service &  
Maintenance

Turn-Key  
Software

Interchangeable  
Test Adapters

## Instrumentation and Software Tools

DC  
Power

PXI  
Instrumentation  
and Drivers

Instrumentation  
Switching

Test  
Management  
Software

Application  
Development  
Software

## Test System Infrastructure

Rack

Power  
Distribution

Cooling

Safety/EPO

Cable  
Management

Assembly and Validation

Certification

System Support

Component Management

Design Burden

Complex BOMs

Multiple Vendors and POs

Procurement Lead Times

<https://www.youtube.com/watch?v=hs5gVExM1QQ&feature=youtu.be>

# NI ATE Core Configurations

Standardized Starting Point for ATE Systems

## Mechanical Infrastructure

19" Rack, Removable Doors, 3 Sets of Mounting Rails

## Power Infrastructure

Power Entry Panel, Power Distribution, Integrated Fans

## Safety Infrastructure

Emergency Power Off, Temperature Monitors



# Anatomy of an ATE Core Configuration



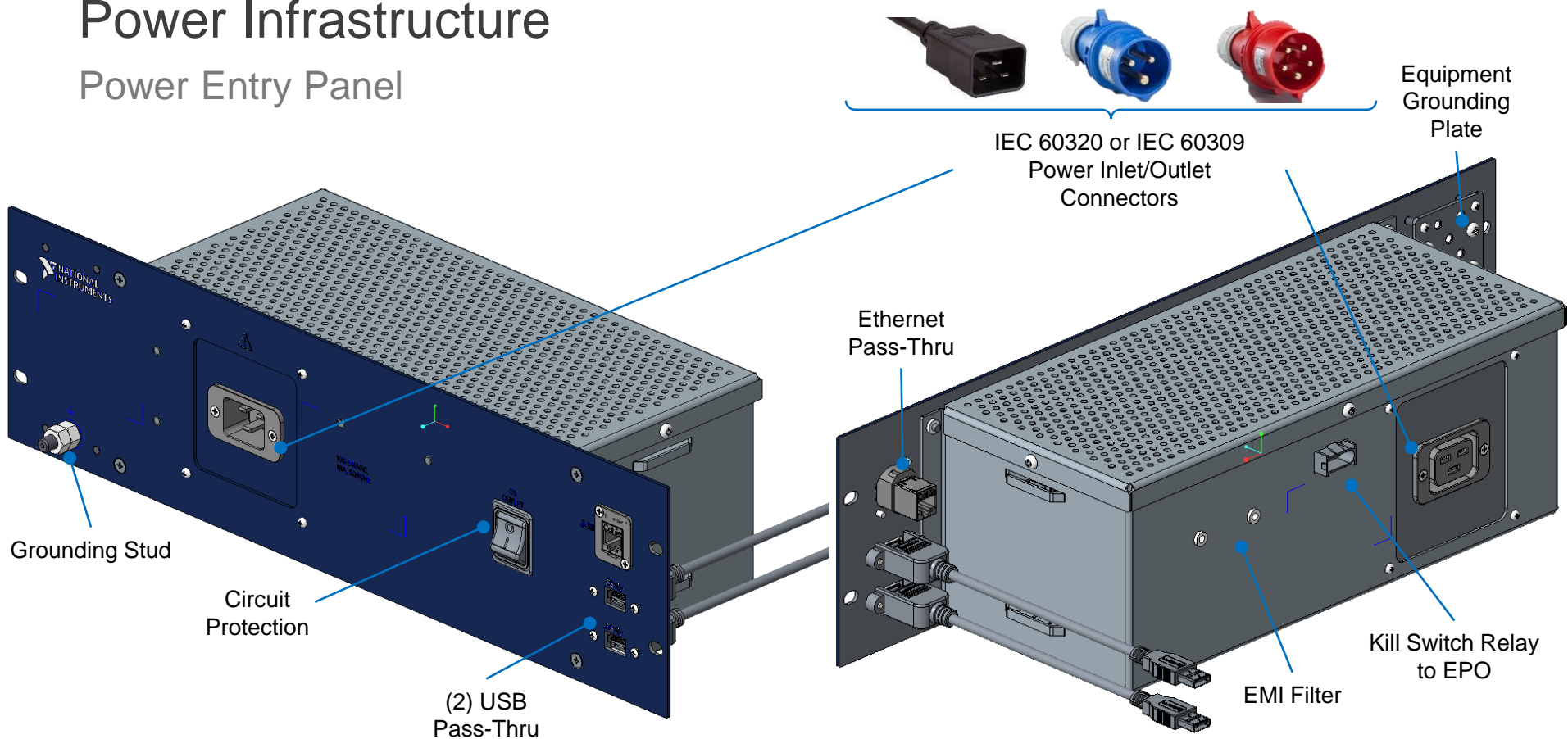
# Mechanical Infrastructure

- Rear Locking Door
- Removable Side Walls
- Top Fan Kit
- Three Sets of Mounting Rails
- Cable Management Tracks
- Brushed Cable Inlet
- Filtered Air Inlet Panel
- Full-Rotation Industrial Casters



# Power Infrastructure

## Power Entry Panel



# Power Infrastructure

## Power Distribution Units

- Power distribution units allocate AC and DC power to instrumentation and rack components
- Co-developed with Marway to meet the needs of ATE systems
- Available for both single-phase and three-phase power systems
- Features include power sequencing, remote inhibit, and EPO connections

RMX-10050 Single-Phase PDU



RMX-10051 Three-Phase PDU



# Safety Infrastructure

## Emergency Power-Off and Thermal Shutdown

### On/Off Switch

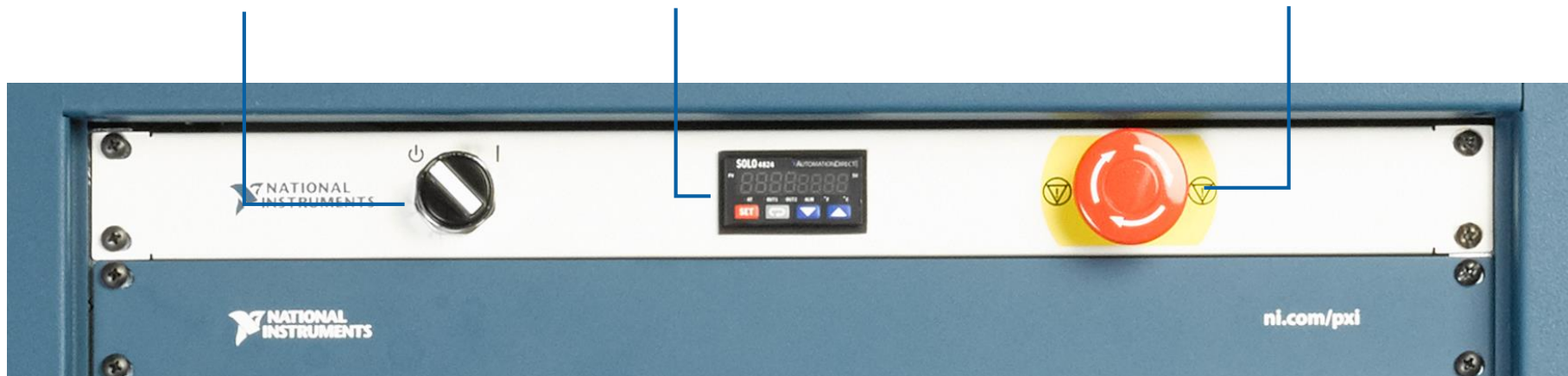
*Enables/disables AC and DC power from PDU*

### Thermal Shutdown Switch

*Kills facility power to system at user-defined temperature*

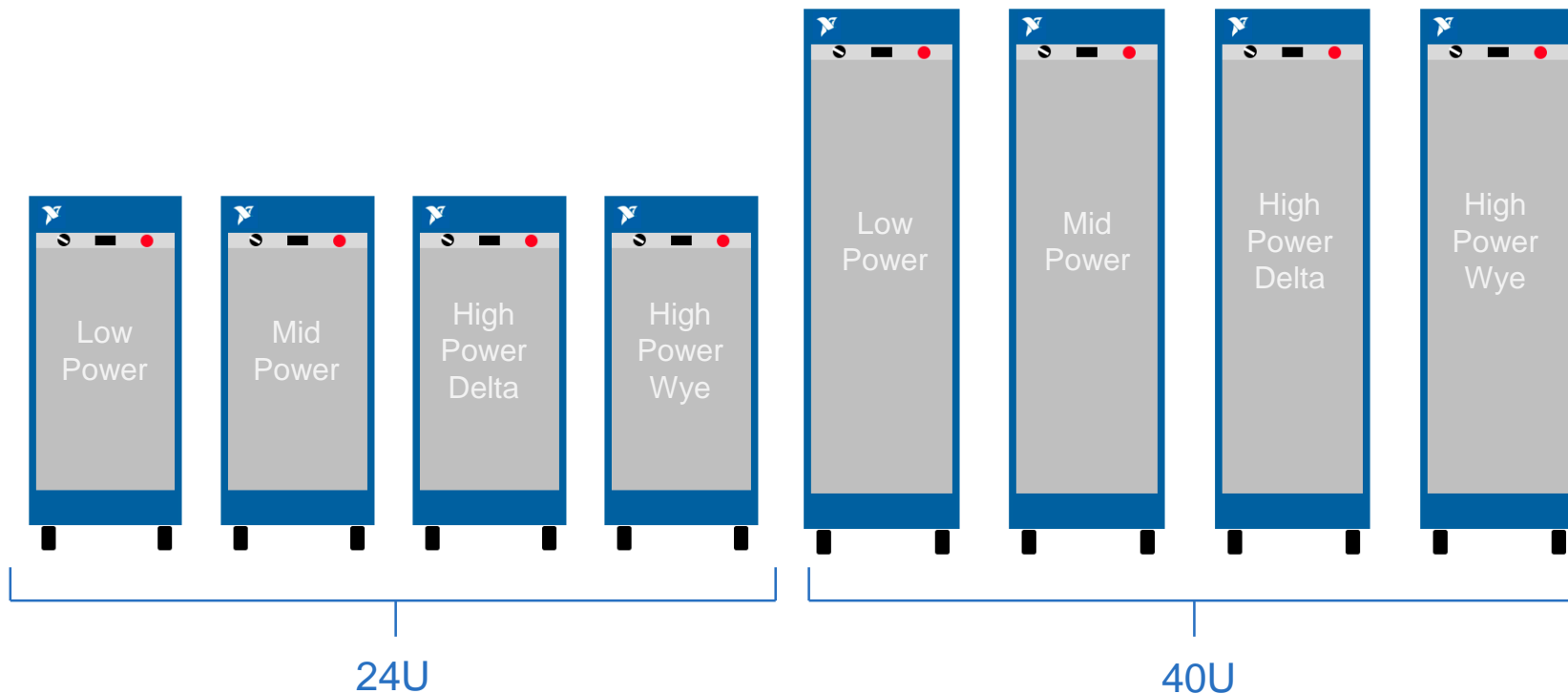
### Emergency Power-Off

*Kills facility power to the system when pressed*



# The Eight ATE Core Configurations

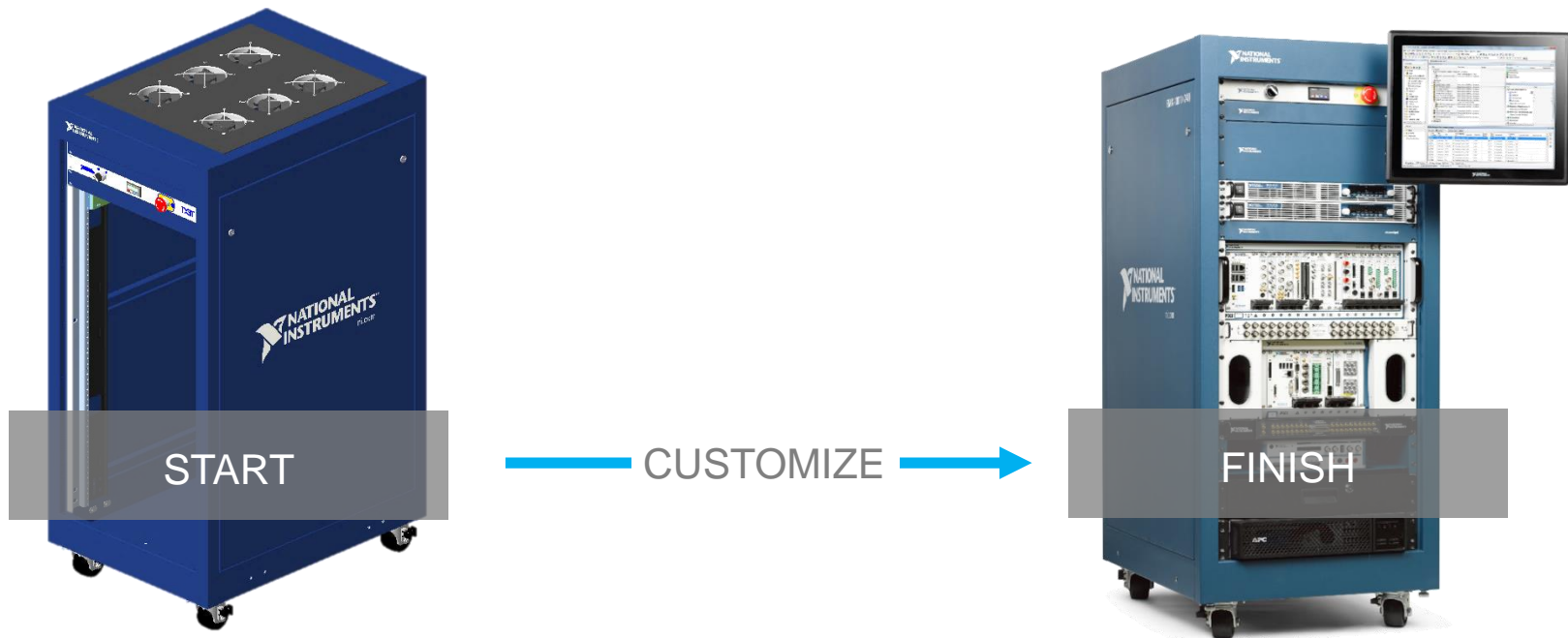
2 Height Options, 4 Power Profiles



# Customizing Your ATE System

# Standardized Core, Customized System

Outfit an ATE Core Configuration with Instrumentation and Accessories



# Customize with Instrumentation, Accessories, and Software

## INSTRUMENTATION



PXI



Switch Load and Signal Conditioning



CompactRIO

## APPLICATION HARDWARE



RAID Arrays



Programmable Power Supplies



Rackmount Controllers

## SYSTEM ACCESSORIES



MKD Units



Displays/HMIs



UPS



# Flexible Display Options



## 1U Flip-Up Drawer

*MKD-1117*

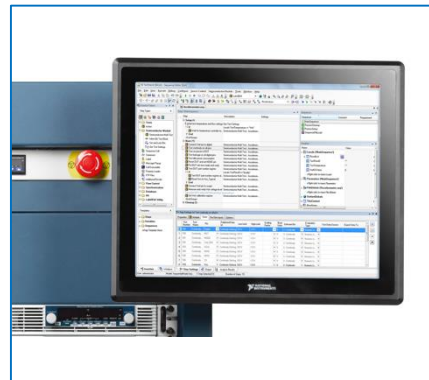
- 17" 1280 x 1024 LCD
- 105-key English keyboard and touchpad
- VGA, USB, PS/2 conn.



## Flush-Mounted Touch Screen

*TSM-1017*

- 17" touch screen LCD
- 1280 x 1024 resolution
- Flush 10U footprint



## Side-Mounted Screen

*TSM-1017 or 22" Monitor*

- 3U plate with mounting arm
- Options for 17" touch screen or 22" standard monitor

# Accelerated Configuration

- The NI PXI Advisor expedites the configuration of ATE systems
- Add optional accessories such as uninterruptible power supplies, displays, filler panels, and spare components
- Position and orient your instrumentation and hardware accessories
- Add ballasts for a balanced system
- Get a system report providing the weight, size, power, and thermal details of your configuration

Currently NI internal – public release in development

The screenshot shows the 'ATE Core Configuration' tab in the NI PXI Advisor. It includes a progress bar at the top with steps: Controller, Modules, Chassis, ATE Core Configuration (active), Software, Services, and Summary. Below the progress bar, there are two sub-steps: '1. ATE Core Configuration' and '2. Customize Rack Layout'. A message states: 'You can change the selections based on your requirements. Click 'Next' to proceed.' There are 'Back' and 'Next' buttons. The main configuration area is titled 'ATE Rack Accessories and Options' and is divided into several sections: 'Chassis Placement' (Rack Location: 12U, Mounting Direction: Front Rail, Alignment: Flush), 'HMI Display' (HMI Display Type: 22" Flat Panel Monitor (3U, Adjustable Mounting Arm), Rack Location: 21U), 'Mains Voltage' (Mains Voltage Option: 100-120V, 50/60Hz), and 'Rack Accessories'. The 'Rack Accessories' section lists slots from RU24 to RU8, each with a checkbox and a dropdown menu. RU24, RU23, RU18, and RU8 are checked and set to 'Empty Slot'. RU22, RU21, RU20, RU19, RU17, RU16, RU15, RU14, RU13, RU12, RU11, RU10, and RU9 are unchecked and set to 'Occupied'. RU13 has a dropdown menu open showing options: 'Empty Slot', '1U Vented Shelf', '1U Fan Kit', 'Filler Panel', '1U Keyboard Drawer', '2U Locking Drawer', 'Equipment Support "L" Brackets', and 'Keepout for airflow'. The 'Price Per Unit' column shows \$ 465 for the HMI Display.

# Hardware Services

- Rack/ Accessories
- Rack Fan Kit
- Cables

Redundancy

Spares

*Customer  
managed  
spares*

NI Managed  
Spares

*Partner with NI on a  
tiered sparing model  
at a location of your  
choice*

Option in **Premium Plus  
Service Program**

Advanced  
Replacement

*Express shipment of a  
replacement product  
within one business  
day of the request*

Included in the **Premium  
Service Program** for HW

Standard Repair

*10 days for repair\*  
plus standard  
return shipping*

Included in the **Standard  
Service Program** for HW

minutes

hours

1 day

3-5 days

2-3 weeks

# System Completion and Deployment

# Streamlined Deployment

- Minimized lead times through standardization
- Free, expedited global shipping
- Reusable shipping crates for multiple shipments
- Serviceability with certified subassemblies and field-replaceable components



# NI Alliance Partner Network

1000+ Alliance Partners

NI Offices  
NI Alliance Partners

Source: [ni.com/findapartner](https://ni.com/findapartner)

—Roy Walker, Business Unit Manager, Bloomy, Inc.  
ni.com/innovations

# NI ATE Core Configurations



## Faster Development

Standardized starting point for test system design



## Simplified Procurement

Simplified BOM and vendor management



## Flexible Configuration

Customized instrumentation and hardware



## Streamlined Deployment

Expedited delivery and global certification



Learn more at  
[ni.com/ate-core-configurations](https://ni.com/ate-core-configurations)



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