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Using Operations Management Interface to Integrate OEM Equipment

GMOEM-04

Dallas, TX

September 11, 2018

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Callisto Integration

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YOUR DIGITAL TRANSFORMATION: AN EXECUTION ROADMAP

Project Background Bakery

Greenfield Bakery

KwikTrip

- ▲ Vertically Integrated Convenience Store Operator
- ▲ Produce 80% Own Food
- ▲ Runs Own Distribution
- ▲ 650 Stores, +40-50 per Year
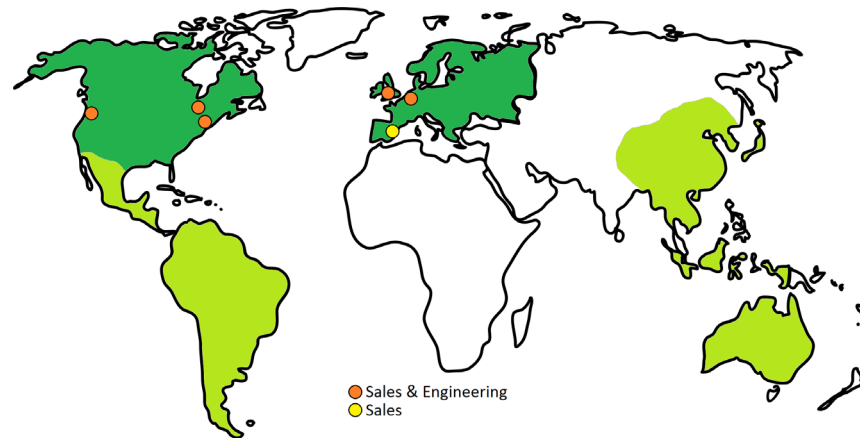- ▲ 7 Million Guests each Week
- ▲ Replenish Every Store Every Day

Callisto Integration
Endorsed Systems Integrator

▲ 200 People, 4 Offices
▲ 30 Years in Business

▲ Automation, Controls, SCADA
▲ Model-Driven MES
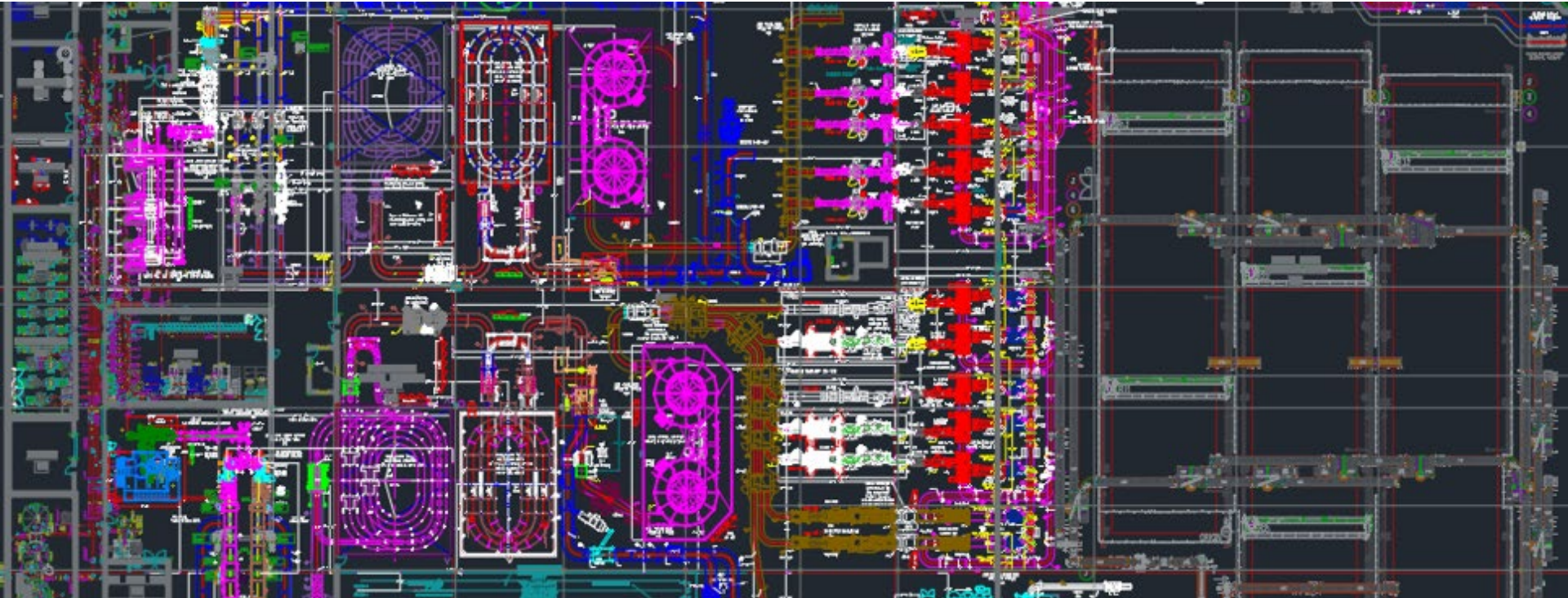▲ IoT
▲ Manufacturing Consulting

▲ F&B, CPG
▲ A&D

● Sales & Engineering
● Sales

YOUR DIGITAL TRANSFORMATION: AN EXECUTION ROADMAP

Project Information
200,000 Square Foot Bakery

Operational Goals
Digitization for Effectivity

▲ Support Millennial Workforce

▲ Small Shop-floor Workforce, High Production Rates
- ▲ Integrated View of All Aspects of Production
- ▲ Rapid Problem Resolution Critical
- ▲ Rapid Product Changeover

▲ Need for Large Volumes of Data
- ▲ Food Safety & Compliance
- ▲ Continuous Improvement
- ▲ Data Collection Automated

Challenges
Systems with Diverse Data

▲ Some Re-purposed Equipment from Existing Facilities

▲ 120 Pieces of OEM Equipment
    ▲ Different Suppliers
    ▲ Different Standards & Designs
    ▲ Different Data Models (if any)
    ▲ Different Interfaces

▲ Consistent Data is a Requirement
    ▲ How to achieve with minimal impact on vendors?

YOUR DIGITAL TRANSFORMATION: AN EXECUTION ROADMAP
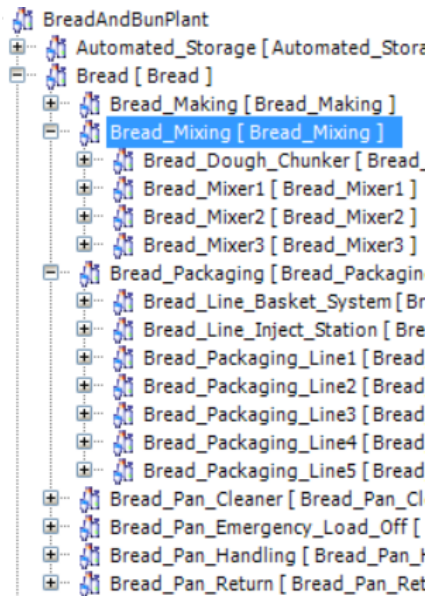
OMI and System Platform
System Platform Templating

- ▲ Modelling Approach to Normalize OEM Data into Common Data Model
  - ▲ Standard UDTs for
    - ▲ Alarms
    - ▲ Critical Control and Process Points
    - ▲ Maintenance data
  - ▲ Standardized downtime reason codes (PackML based)
  - ▲ Standardized data transaction mechanisms to ensure data integrity
- ▲ Design approach to minimize PLC code impact to OEM Vendors

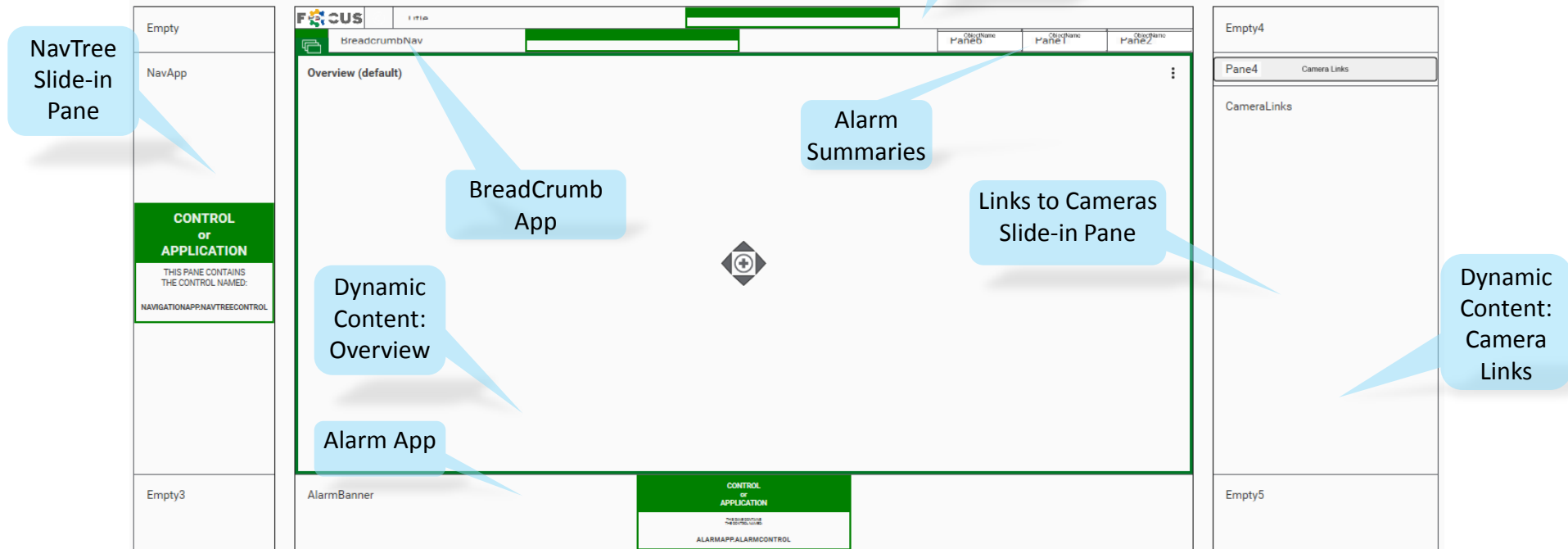YOUR DIGITAL TRANSFORMATION: AN EXECUTION ROADMAP

OMI and System Platform
OMI

▲ Plant Model Linked Content:
- ▲ All displayed content relative to your current location in the plant model.

▲ OMI Screen Profiles and Layouts:
- ▲ Faster application development
- ▲ Ensure consistency / standardization across the application
- ▲ Separation of content vs. presentation: Allows for display across several different hardware
- ▲ Multi-vendor collaboration
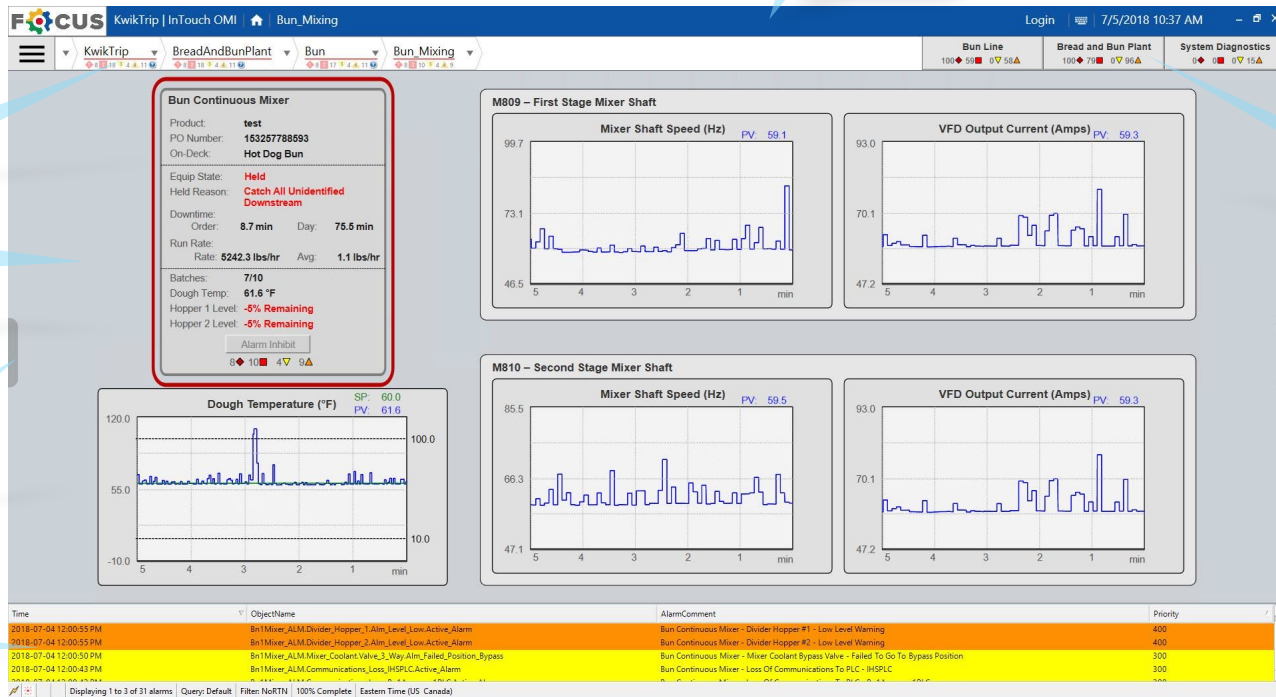
▲ OMI ArchestrA Apps: Pre-built configurable applications

BreadAndBunPlant
- Automated_Storage [Automated_Stora
- Bread [Bread]
  - Bread_Making [Bread_Making]
  - Bread_Mixing [Bread_Mixing]
    - Bread_Dough_Chunker [Bread_
    - Bread_Mixer1 [Bread_Mixer1]
    - Bread_Mixer2 [Bread_Mixer2]
    - Bread_Mixer3 [Bread_Mixer3]
  - Bread_Packaging [Bread_Packagin
    - Bread_Line_Basket_System [Br
    - Bread_Line_Inject_Station [Bre
    - Bread_Packaging_Line1 [Bread
    - Bread_Packaging_Line2 [Bread
    - Bread_Packaging_Line3 [Bread
    - Bread_Packaging_Line4 [Bread
    - Bread_Packaging_Line5 [Bread
  - Bread_Pan_Cleaner [Bread_Pan_Cl
  - Bread_Pan_Emergency_Load_Off [
  - Bread_Pan_Handling [Bread_Pan_H
  - Bread_Pan_Return [Bread_Pan_Ret

OMI and System Platform
OMI – Screen Layouts

YOUR DIGITAL TRANSFORMATION: AN EXECUTION ROADMAP

OMI and System Platform
OMI – Screen Layouts

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TitleBar App

BreadCrumb App

Dynamic Content: Overview

NavTree Slide-in Pane

Alarm App

Alarm Summaries

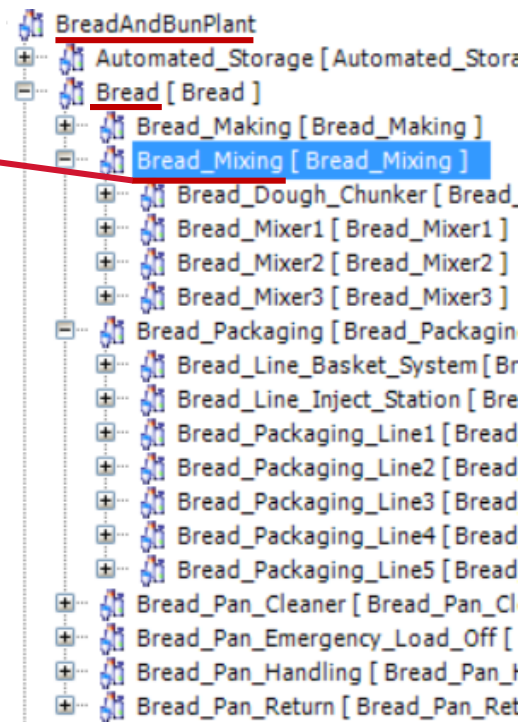Cameras links Slide-in Pane – navigates to Camera overviews

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OMI and System Platform
BreadCrumb App

OMI and System Platform
NavTree App
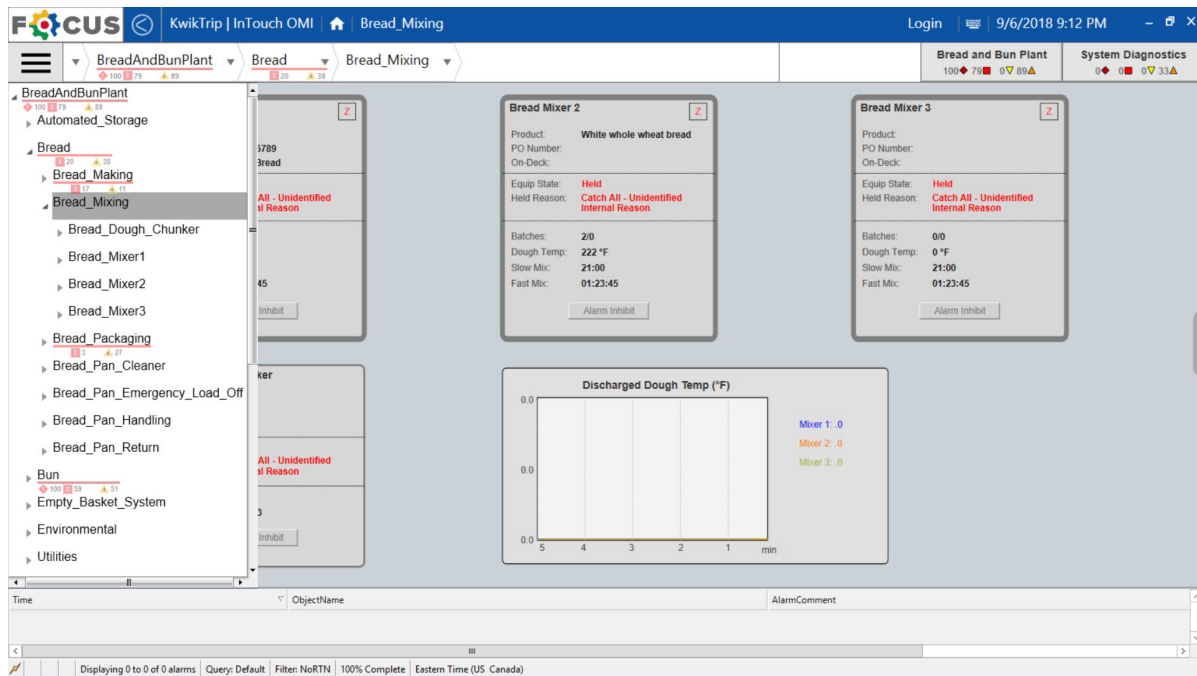
OMI and System Platform
Content Presenter

OMI and System Platform
Future Proofing

▲ InTouch + System Platform Was Viable – Why OMI?
  - ▲ Future Proof
  - ▲ Reduced Engineering Costs
  - ▲ Higher First-Pass Application Quality
  - ▲ Greenfield Site; No Legacy Approach in Place

▲ OMI Benefits
  - ▲ Ability to adopt new ArchestrA Apps to bring better contextual data to the operator in a common environment
    - ▲ CMMS, LIMS, MES
  - ▲ Simpler over all software setup to maintain
  - ▲ Easier to modify and expand
  - ▲ Future support for mobility

Question

OMI for OEM Equipment Integration

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