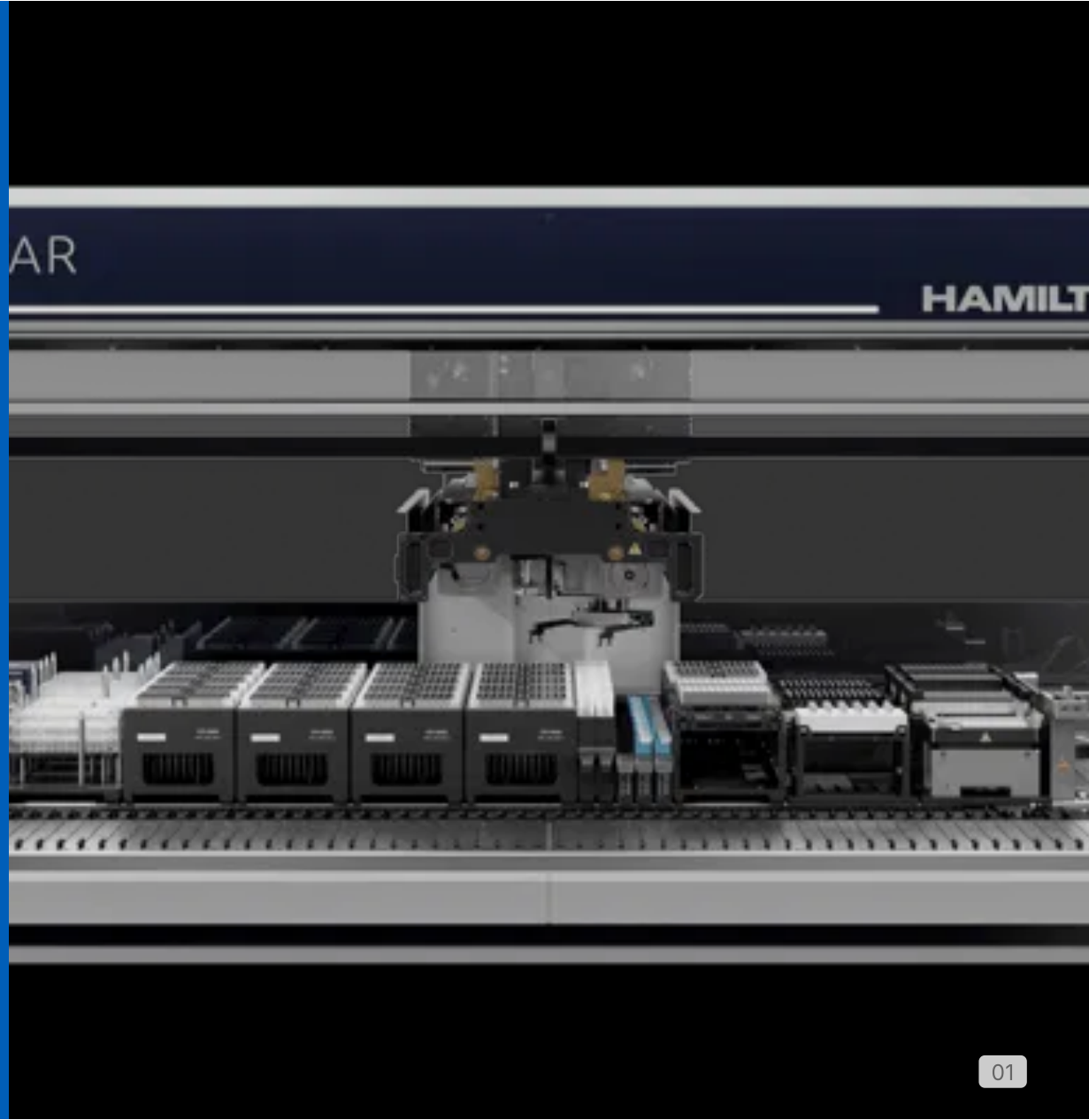
Before Day One: Strategic Analysis & Readiness

> Demonstrating readiness to deliver value immediately as Product Manager Digital.

ROLE: Product Manager Digital
DATE: January 28, 2026
PREPARED FOR: Hamilton Bonaduz AG
PREPARED BY: Marcelo Caballero



Understanding the Dual Mandate

Two Distinct Operating Modes

AREA 2

CONNECTIVITY PROJECT

THE GROWTH ENGINE (NEW)

PRIMARY OBJECTIVE

Connectivity MVP → Market Launch

KEY DELIVERABLES

Fleet Dashboard & Mobile App (Horizon 1)

LIMS Integration Hub (SaaS Model)

Predictive Maintenance Models (Horizon 2/3)

Operating Mode: Agile Innovation & Rapid Iteration

AREA 1

VENUS PRODUCT MGMT

THE FOUNDATION (CORE)

PRIMARY OBJECTIVE

Enable Cloud Extension & Maintain Stability

KEY DELIVERABLES

DeckWatch Data Streaming (Layer 4)

TADM/Log Data Standardization (Layer 5)

API Exposure for Connectivity Agent (Layer 6)

Operating Mode: Reliability-First, but Cloud-Ready

The Strategic Challenge: Building the bridge (Connectivity) while keeping the engine running (VENUS). My role is to ensure VENUS evolves to *support* the cloud, not just exist alongside it.

VENUS powers **20,000+ installations worldwide** - the foundation we're extending, not replacing.

Area 1: VENUS Product Management

Managing the Core Foundation (6-Layer Architecture)

6. Integration & Connectivity — GAP: POINT-TO-POINT
LIMS, Remote Monitoring, File I/O

5. Data Integrity & Compliance — GAP: LOCAL LOGS
Run Logs, TADM Data, Audit Trail

4. Hardware Control & Sensors
TADM, MAD, MagPip Telemetry

3. Device Abstraction Layer
HAL, Hamilton Drivers, 3rd Party

2. Runtime & Orchestration
Execution Engine, Scheduler, Error Handling

1. User Interface & Authoring
Power Steps, HSL, Deck Editor

MY RESPONSIBILITY: CORE EVOLUTION

Ensure VENUS remains the "Gold Standard" for real-time control. Focus on usability (Layer 1), reliability (Layer 2), and hardware support (Layer 3).

THE STRATEGIC TENSION

Layers 5 & 6 are currently "Local-First." This creates the data silos that customers complain about. We cannot break this (for regulation), but we must extend it.

KEY INSIGHT

The Connectivity Project is NOT about replacing VENUS. It is about building a "Sidecar" that extracts value from Layers 4, 5, and 6 without disrupting the real-time core.

User Personas & Workflow Analysis

Solving Real Pain Points

THE LAB MANAGER

"I need visibility and efficiency."

Pain: "Black Box" operations. No idea if robots are running without walking to lab.

Win: Fleet Dashboard - Real-time status globally.

THE TECHNICIAN

"I need confidence and walk-away time."

Pain: Anxiety about errors. Recovering from failures is scary.

Win: Mobile Alerts & Guided Recovery.

THE INTEGRATOR

"I need data access and open APIs."

Pain: Data silos. Parsing log files is a nightmare ($200k custom integrations).

Win: Data Liberation - JSON via REST API.

CUSTOMER PRIORITIES

69% want AI for process optimization

56% for data analysis

48% for scripting

46% for organizing data

Source: Hamilton Webinar Poll

Connectivity Strategic Framework: Closing the 5 Critical Gaps

1. VISIBILITY GAP →
~~Local / Offline~~ Global / Real-Time Dashboard

2. DATA GAP →
~~Siloed Log Files~~ Structured Cloud API

3. INTEGRATION GAP →
~~Proprietary / Closed~~ Open Standards (SiLA 2)

4. WORKFLOW GAP →
~~Device Control~~ Lab Orchestration

5. VALUE GAP →
~~Hardware CAPEX~~ Digital Services OPEX

STRATEGIC IMPERATIVE

The Connectivity Project is the bridge that transforms the Hamilton STAR from a "standalone island" into an "intelligent node" in the modern lab.

Value Proposition:
For Every VENUS Gap, Connectivity Provides the Bridge

VENUS LIMITATION

Operational Blindness

"Is the robot running? Did it finish?" (Requires walking to the lab)

→

CONNECTIVITY SOLUTION

Radical Transparency

Real-time Fleet Dashboard accessible from anywhere.

VENUS LIMITATION

Reactive Maintenance

Errors are discovered only after a run fails.

→

CONNECTIVITY SOLUTION

Predictive Intelligence

Analyze TADM/MagPip data to predict wear before failure.

VENUS LIMITATION

Data Silos

Valuable run data locked in local flat files.

→

CONNECTIVITY SOLUTION

Cloud Data Lake

Centralized, structured data ready for API consumption.

VENUS LIMITATION

Manual Management

USB stick updates and manual config changes.

→

CONNECTIVITY SOLUTION

Remote Command

Over-the-air updates and fleet-wide configuration.

The Connectivity Project unlocks the digital value trapped inside the physical hardware.

Area 2: Connectivity Project

Building the Cloud Extension (5-Layer Architecture)

LAYER	NAME	COMPONENTS
5	**External Integration**	REST API, Webhooks, Partner Ecosystem
4	**Cloud Backend**	IoT Hub, Time-Series DB, S3, Analytics
3	**Security & Compliance**	Firewall, RBAC, Audit Trail, Encryption
2	**Site Edge**	Gateway, LIMS Adapters, SiLA 2
1	**Instrument Edge**	Connectivity Agent, Local Buffer, Policy Engine

MY RESPONSIBILITY (THE "SIDECAR")

Build and launch this stack. It must extract data from VENUS (Area 1) without breaking it. It provides the "Fleet View" that VENUS cannot deliver.

SOLVING THE GAPS

Layer 2 solves LIMS integration pain

Layer 4 solves Data Silo pain

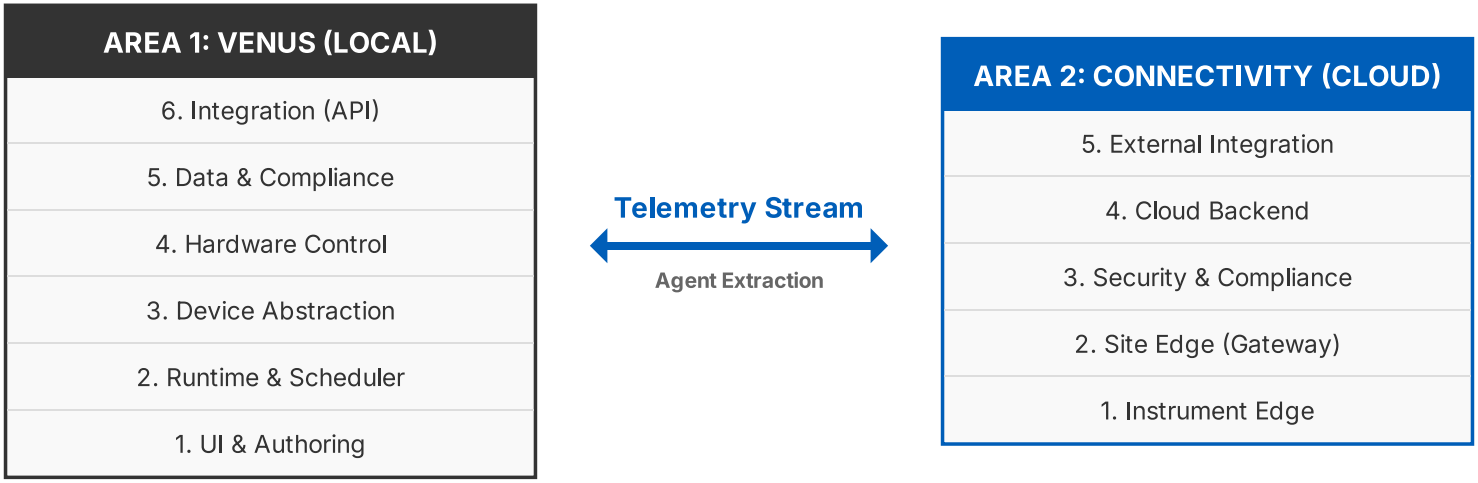
Layer 5 solves "Closed Ecosystem"

PRE-BUILT LIMS CONNECTORS

- LabWare
- Benchling
- Thermo SampleManager
- LabVantage

The Complete Digital Ecosystem

How VENUS (The Engine) Powers Connectivity (The Brain)



THE STRATEGIC LINK

The **Connectivity Agent (Layer 1)** is the critical bridge. It sits on the VENUS PC, extracts data from VENUS Layers 4-6, and securely pushes it to the Cloud. This decouples "Control" (VENUS) from "Analytics" (Connectivity).

DATA SOURCES EXTRACTED

Layer 6: REST API status, run events

Layer 5: Run logs, TADM curves, audit trail

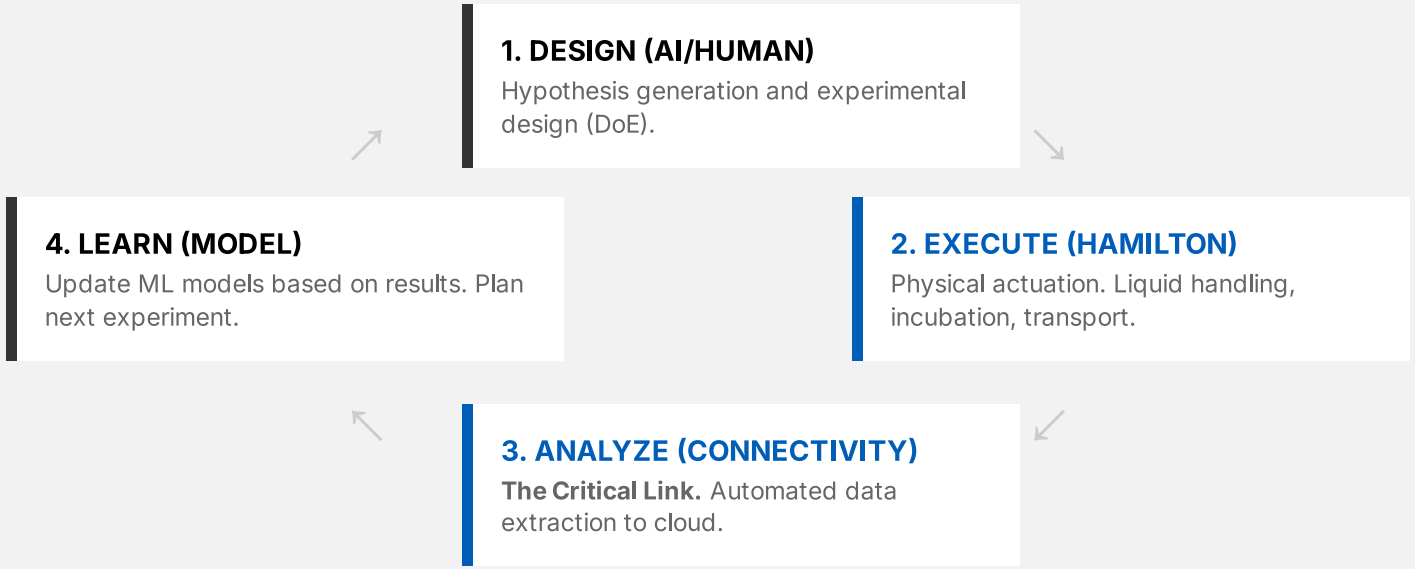
Layer 4: MagPip telemetry (1kHz), MAD errors

Unified Dual-Track Roadmap

Lockstep Evolution: VENUS Enables, Connectivity Delivers

	HORIZON 1: FOUNDATION (2026 MVP)	HORIZON 2: INTELLIGENCE (2027)	HORIZON 3: AUTONOMY (2028+)
VENUS (ENABLER)	**STANDARDIZATION & EXPOSURE** Expose REST API v2 for Agent Standardize Log Formats (JSON) Enable Local Buffer Access	**DATA RICHNESS** Stream TADM Pressure Curves Expose MagPip Telemetry (1kHz) LIMS Connector Framework	**DYNAMIC CONTROL** Cloud Command Interface Self-Healing Logic Hooks Dynamic Scheduler API
	↓ Enables	↓ Enables	↓ Enables
CONNECTIVITY (VALUE)	**VISIBILITY & CONTROL** Fleet Dashboard (Global View) Remote Monitoring & Alerts Cloud Method Library (Git)	**DEEP ANALYTICS** Utilization Heatmaps Performance Trending LIMS Integration Hub (SaaS)	**PREDICTIVE AI** Predictive Maintenance Closed-Loop Optimization "Self-Driving" Lab Workflows

Vision: The Closed-Loop "Self-Driving" Laboratory



THE HAMILTON OPPORTUNITY

Without Connectivity, the loop is broken at Step 3 (manual data transfer). By automating this link, Hamilton becomes the indispensable physical engine of the AI-driven lab.

My 30/60/90 Day Plan: Hitting the Ground Running

30 Days

LEARN & ASSESS

- **Stakeholder Interviews:** Meet with R&D, Sales, Apps, and Service to understand pain points.
- **Architecture Audit:** Deep dive into the current Connectivity stack and VENUS codebase.
- **Customer Visits:** Shadow a Field Service Engineer (FSE) to see the "real world."

KEY DELIVERABLE

"State of the Union" Report & Strategic Gap Analysis

60 Days

ALIGN & DEFINE

- **Roadmap Refinement:** Prioritize the backlog for the Connectivity MVP.
- **Team Topology:** Define clear roles/responsibilities between Core VENUS and Digital teams.
- **Commercial Model:** Draft the pricing and packaging strategy for digital services.

KEY DELIVERABLE

Approved Product Roadmap & Resource Plan

90 Days

EXECUTE & SCALE

- **Alpha Pilot:** Launch the first connectivity features with 3 friendly customers.
- **SiLA 2 Strategy:** Finalize the implementation plan for open standards.
- **Executive Review:** Present the long-term digital strategy to the Board.

KEY DELIVERABLE

Alpha Launch & Go-to-Market Strategy

Stakeholder Engagement Strategy

R&D / ENG	STRATEGY: ALIGNMENT & ABSTRACTION Bridge the culture gap between "Hardware Perfection" (VENUS) and "Software Velocity" (Cloud). • Joint Architecture Reviews • Clear API Contracts
SALES & APPS	STRATEGY: ENABLEMENT Transform the sales motion from selling "Boxes" to selling "Outcomes" (Uptime, Data). • Value Prop Training • Demo Environment
CUSTOMERS	STRATEGY: CO-CREATION Validate the roadmap early to ensure we are solving real workflow problems, not just building tech. • Digital Advisory Board • Beta Program

ENGAGEMENT PHILOSOPHY

"Alignment precedes Execution." We cannot build a connected lab if we are a disconnected organization.

The 3 Horizons of Connectivity Value

From Parity to Competitive Moat

	HORIZON 1 (2026)	HORIZON 2 (2027)	HORIZON 3 (2028+)
THEME	**COMPETITIVE PARITY**	**SURPASS TECAN**	**THE MOAT**
Fleet Monitoring	Dashboard (extends single-instrument to fleet-wide)	Utilization Analytics (cost-per-sample tracking)	Predictive Maintenance (14-21 day failure forecast)
Method Mgmt	Cloud Library (Git-based versioning)	TADM Anomaly Detection (ML pressure curve drift)	Workflow Marketplace ("App Store" for methods)
Integration	LIMS Hub (4 pre-built connectors, 90% cost reduction)	DeckWatch AI (vision for tip/labware errors)	Ecosystem Lock-in (network effects)
Value	**Stops Customer Churn**	**Operational Efficiency**	**Defensible Position**

PRE-BUILT LIMS CONNECTORS (H1): 1 LabWare 2 Benchling 3 Thermo SampleManager 4 LabVantage