



Case study

# Launching Windows CE at startup speed

How an empowered product delivery team shipped a first-wave handheld PC in 13 months

## FTTM case study series.

Philips Velo (Windows CE handheld PC), 1996–1997. lateralworks recommended a dedicated product delivery team operating outside the host hierarchy. The team shipped in 13 months — an 18-month acceleration over a typical Philips program.

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**Prepared by**

lateralworks  
Fast Time To Market methodology

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## Table of contents

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<b>Abstract</b>	<b>03</b>
<b>01 The context: a narrow window of exclusivity</b>	<b>04</b>
<b>02 The challenge: why this would fail in a hierarchy</b>	<b>06</b>
<b>03 The solution: a dedicated product delivery team</b>	<b>08</b>
<b>04 The operating model</b>	<b>11</b>
<b>05 Results and impact</b>	<b>14</b>
<b>06 Why this beat siloed programs</b>	<b>16</b>
<b>07 Key takeaways: the reusable pattern</b>	<b>18</b>
<b>References</b>	<b>20</b>

**Core thesis.** When the deadline is existential and the work spans multiple companies, the single most important design decision is organizational, not technical. Stand up a ring-fenced product delivery team with end-to-end ownership, governed above the hierarchy, and let an integrated master schedule do the coordination work that committees do too slowly.

## Overview

# Abstract

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**In 1996, Philips secured a limited exclusivity window to launch Microsoft's new Windows CE mobile operating system.** Smartphones did not yet exist. Hardware makers were lining up to ship the first generation of "Handheld PC" products, and the exclusivity window was the difference between defining the category and following someone else into it.

lateralworks was brought in through a long-standing relationship with Philips Semiconductor and gave a blunt assessment: Philips would miss the window if the program ran through the standard business-unit hierarchy. The decision latency, ownership fragmentation, and silo-driven coordination costs were incompatible with the timeline.

The recommendation was to stand up a dedicated Product Delivery Team (PDT) led by a single Product Delivery Leader — Tony Fadell — with end-to-end ownership from concept through high-volume production. The team would be ring-fenced from host-organization interrupts, governed by its own budget and steering structure, and would manage a predominantly outsourced execution model through a single integrated master schedule.

A 20-person core team orchestrated more than 200 development partners to deliver the Philips Velo — a feature-rich Windows CE handheld PC — with full manufacturing ramp in 13 months. It was an early implementation in Silicon Valley of what is now the standard operating model for complex consumer electronics delivery.

**13**

Months to ship

**~20**

Core team

**200+**

Partners managed

**18 mo.**

Schedule acceleration

# 01

## The context

### **A narrow window of exclusivity**

In the mid-1990s, mobile computing sat in an awkward in-between era. Laptops were bulky, smartphones did not exist, and PDAs were largely organizer-first devices. Microsoft's Windows CE was an attempt to bring a familiar Windows experience onto small, battery-powered hardware, and it triggered a race to ship the first generation of "Handheld PC" products.

Philips had secured something rare: a limited exclusivity window to be among the first to ship on the new platform. The market window was binary. Ship early and well, define the category. Ship late, become an irrelevant follower in a market that was forming fast.

The product that emerged was the Philips Velo 1: a clamshell handheld PC under one pound, running Pocket versions of Office applications, capable of web browsing, fax, and voice memo. The capability set anticipated what smartphones would deliver a decade later. The Smithsonian Institution later preserved Velo as a notable computing artifact.



*The Philips Velo 1: a full Windows CE handheld PC with Pocket Office, web browsing, fax, and voice memo capabilities.*

*“The king of the HPC hill is Velo 1...” — Inc. Magazine, June 1997*

# 02

## The challenge

### **Why this would fail inside a hierarchy**

Philips faced what lateralworks recognized as a classic “corporate impossibility”: a breakthrough product, tied to an external platform launch, with a narrow market window and a long list of internal and external stakeholders. Four constraints made the situation acute.

## Time compression

Deliver a complete consumer electronics product — hardware, software, industrial design, manufacturing readiness, accessories, packaging, and go-to-market — on a schedule more typical of a focused silicon program than a full consumer launch. Every week of delay against the closing Microsoft exclusivity window was measurable competitive risk.

## Platform uncertainty

Windows CE was new, still evolving, and had not yet found its definitive use-case narrative. Building a flagship product on an unproven platform introduced technical risk at every layer of the stack.

## Cross-company complexity

The Velo required tight integration across Microsoft's OS team, Toshiba, Selectron, and multiple specialist suppliers, spanning hardware design, RF and modem behavior, industrial design, peripherals, manufacturing, and distribution. The build was a multi-company orchestration challenge as much as a product engineering one.

## Organizational friction — the core risk

This was the factor lateralworks flagged most forcefully at kickoff. Running Velo through Philips' standard business-unit hierarchy would introduce **fatal decision latency and ownership fragmentation**. In a traditional matrix structure, every cross-functional decision would escalate through multiple chains of command. Procurement, legal, manufacturing, and engineering would operate on sequential gates. Integration pain would surface late, when it was most expensive and least recoverable.

lateralworks had seen this failure mode repeatedly in large organizations: each function optimizes locally, milestones get designed for reporting optics rather than integration readiness, and the integrated product misses its market window while individual teams claim they hit their own targets.

**The lateralworks assessment.** Do not run this through the normal Philips hierarchy. The decision latency and ownership fragmentation will overwhelm the schedule. Philips will fail.

# 03

## The solution

# **A dedicated product delivery team**

lateralworks recommended, and Philips agreed to implement, a different operating model. Rather than fitting Velo into the existing structure, Philips would create a dedicated Product Delivery Team that operated as a ring-fenced venture inside the company, insulated from host-organization interrupts and governed by its own rules. The model rested on five interlocking design choices.

## 1. Ring-fenced venture structure

The PDT operated with its own budget, leadership, and governance. It reported directly to an executive steering team at the board level rather than through the standard business-unit hierarchy. That compressed decision cycles: fewer committees, fewer handoffs, fewer veto points. The board provided air cover and fast escalation but did not micromanage execution.

## 2. Single product delivery leader with end-to-end ownership

lateralworks advised appointing Tony Fadell as the single accountable Product Delivery Leader, empowered to make product tradeoffs, resolve cross-functional conflicts, and drive the program from concept through high-volume manufacturing ramp. The “single throat to choke” model is uncomfortable for many corporations and is one of the clearest predictors of speed in novel product categories. Fadell’s end-to-end ownership eliminated the committee-driven compromise that dilutes product vision and slows execution. He later applied practices honed on Velo to help create the iPod, iTunes, iPhone, and iPad at Apple, and founded Nest Labs (acquired by Google).

## 3. Small, senior core team

The core PDT was about 20 people, deliberately kept small to maximize communication bandwidth and decision speed. The team was cross-functional, spanning product management, engineering, operations, and program management. Every member was senior enough to make real decisions, not relay information. Small teams communicate at high bandwidth, which matters when you are constantly trading scope, schedule, and technical risk.

## 4. Outsource-first execution model

Rather than staffing a large internal organization — which would have taken months Philips did not have — the model relied on specialist external partners to execute the major build and test workstreams. The core team retained ownership of architecture, integration, interfaces, and the schedule. Today the “extended enterprise” model is standard practice in consumer electronics; in the mid-1990s it was rare, and Velo was one of the first implementations of the model in Silicon Valley.

## 5. Integrated master schedule as the single source of truth

One integrated plan replaced the twenty departmental plans a traditional structure would have produced. Every partner, every workstream, and every dependency sat on a single critical path. Tradeoffs were explicit: change X, slip Y. Cross-team dependencies stopped being someone else’s problem. The master schedule was the mechanism that made partnership scalable.

## At a glance

# The product

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Figure 1. The Philips Velo 1 in hand. A full Windows CE handheld PC weighing under one pound, with web browsing, fax, voice memo, and Pocket Office applications.

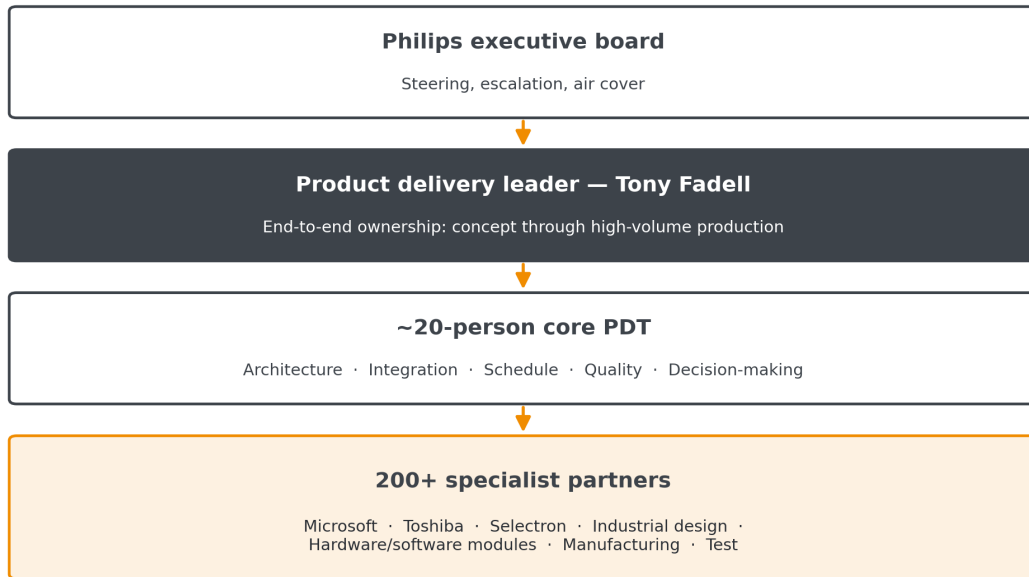
The Velo was preserved by the Smithsonian Institution as a notable computing artifact. *Inc. Magazine* described it in June 1997 as the leading device in its category. The capability set anticipated by nearly a decade what mobile users would later expect from smartphones.

# 04

## Operating model **How the structure changed behavior**

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The PDT operating model created a single chain of authority from executive governance through the core team to the extended partner ecosystem. The diagram on the next page shows the structure. The three sections that follow describe the day-to-day execution mechanics that turned the structure into behavior.



*Single chain of authority — board to partners*

*Figure 2. The PDT operating model. A single chain of authority from the Philips executive board through the Product Delivery Leader and core PDT to the extended ecosystem of 200+ specialist partners.*

A structure only matters if it changes behavior. The Velo PDT changed behavior in three ways.

### **High-frequency cross-company cadence**

The core team ran 2–3x weekly schedule updates with scenario modeling: *if supplier A slips, what do we cut, parallelize, or swap?* Decisions were pushed to the smallest group that could responsibly make them, rather than escalated through hierarchical status reporting.

### **Parallel execution streams**

Engineering, procurement, legal, and manufacturing moved in parallel. lateralworks helped accelerate procurement and legal paths to compress tooling, materials, and partner contracting timelines. That eliminated months of internal queue time a traditional gated process would have imposed.

### **Integration-ready milestones**

Milestones were designed around integration readiness and shipment criteria, not reporting optics. The weekly integration rhythm forced early risk discovery and kept cross-partner dependencies visible and actively managed.

# 05

## Results

### **Delivery, market, lasting influence**

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The Velo program achieved what most large organizations struggle to do: ship a tightly integrated, multi-partner product on a compressed timeline without drowning in internal coordination costs.

## Delivery

Full system development through manufacturing ramp was delivered in 13 months, missing the original 12-month target by one month and representing an 18-month acceleration over a typical Philips program. The 20-person core team orchestrated more than 200 development partners through one master schedule and a shared cross-company cadence.

## Market

Velo released at COMDEX and won a COMDEX new product award. Industry media positioned it as a leading first-generation Windows CE device, with *Inc. Magazine* calling it the top device in its category. The shipping product included web browsing, fax, voice memos, Pocket Office applications, and an integrated modem — capabilities that anticipated smartphone-era expectations by nearly a decade.

## Lasting influence

Tony Fadell, who served as Product Delivery Leader, later applied the practices honed on Velo to help create the iPod, iTunes, iPhone, and iPad at Apple, and founded Nest Labs (acquired by Google). The PDT model — small core team, outsource-first execution, executive-level governance — became a blueprint for the now-standard approach to complex consumer electronics delivery. The Philips Velo is preserved by the Smithsonian Institution as a notable computing artifact.

**13 mo.**

Full delivery to ramp

**18 mo.**

Schedule acceleration

**200+**

Partners orchestrated

**1996**

Pre-iPhone, pre-iPad

**Outcome.** A 20-person core team, a single empowered leader, and an integrated master schedule shipped a first-wave Windows CE product in 13 months — 18 months faster than a typical Philips program of comparable scope.

# 06

## Comparison

### **Why this beat siloed programs**

Most corporate programs fail for reasons that have nothing to do with engineering: unclear ownership, slow decisions, and competing incentives across silos. Velo worked because its operating model attacked those failure modes directly. The comparison on the next page captures the structural differences.

Traditional siloed program	Velo product delivery team
Ownership fragmented across functions and business units	<b>Single accountable PDT with executive-board line of sight</b>
Decisions escalate through hierarchy; committee-driven compromise	<b>Fast decision loop; explicit decision rights; empowered Product Delivery Leader</b>
Large team size increases coordination overhead	<b>Small (~20) cross-functional core team; high-bandwidth communication</b>
Suppliers managed locally; dependencies discovered late	<b>Outsource-first with integrated master schedule and explicit interfaces</b>
Milestones optimized for reporting optics	<b>Milestones optimized for integration readiness and shipment criteria</b>
Sequential gating: engineering, procurement, legal, manufacturing	<b>Parallel execution: all streams move at the same time</b>
Host organization interrupts and redirects resources	<b>Ring-fenced PDT insulated from organizational noise</b>

Each row in the table is an independent design decision. Velo made the right call on every one of them, which is why the program shipped in 13 months while most large-organization programs of comparable scope take 24 to 36.

# 07

## Takeaways

# **The reusable pattern**

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The Velo program demonstrates principles that apply directly to any complex, time-critical product delivery challenge — consumer electronics, semiconductors, connected devices, AI-enabled systems.

**Design the organization like you design the product.** Governance, decision rights, incentive structures, and team topology are architecture. If the organizational design is wrong, no amount of engineering talent compensates.

**Remove the team from the host organization's interrupts.** A ring-fenced venture with its own budget, priorities, and decision rights eliminates the constant tug-of-war for resources and attention that kills programs inside large enterprises.

**Appoint a single product delivery leader with end-to-end ownership.** One accountable leader, from concept through high-volume production, prevents the slow death of alignment by compromise and keeps product vision coherent through execution.

**Keep the core team small and senior.** Fewer people, clearer accountability, faster decisions. Every member of the core PDT should be empowered to make real decisions rather than relay information.

**Outsource execution; do not outsource ownership.** Partners build. The core team owns the product, the interfaces, and the schedule. The integrated master schedule is the mechanism that makes the partnership scalable.

**Report above the hierarchy when the window is existential.** Direct executive visibility and fast escalation remove layers of negotiation that would otherwise consume the schedule.

**The pattern is reusable.** Empowered governance, cross-functional ownership, and an integrated partner cadence beat siloed execution. Velo proved it in 1996, before the model had a name. The same operating choices apply today, in any category where a critical window forces speed and complex integration at the same time.

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*Program narrative based on the lateralworks engagement account. Public product details cited where available.*