

Product Development Process

	Phase 0 Feasibility	Phase 1 Breadboard / Risk Reduction	Phase 2 Design/ Development	Phase 3 Alpha / Beta Prototype	Phase 4 Transfer to Manufacturing	Phase 5 Pilot Build	Phase 6 Production / Commercialization
INPUTS	Business requirements Research results	Technical Spec. v1 Risk Analysis Design of Experiments	Technical Spec v2 Development Plan Risk Matrix	CDR Approval Preliminary Verification	Verified Design	MRR Approval	Product Validation
GOALS	Feasibility analysis Identify risks Develop technical req.	Experimental Breadboard Risk Reduction Preliminary Cost Analysis	Complete System Design Material Cost Estimate Design for Excellence (DFX)	Works-like, looks-like prototype Engineering Verification (later phases)	Develop production process Develop work instructions Design for Manufacture	Product Validation Finalized ICD Revision Control	On-time delivery Cost reduction planning Continuous improvements
OUTPUTS	 Technical Spec. v1 System Architecture Risk Analysis	 Technical Spec. v2 Benchtop Demonstrator Cost Estimate Project Plan	 PDR CDR Interface Control Doc. Cost Forecast	 Functional Prototypes (sophistication and qty increase with phase)	 Qualified Supplier List MRR	 Field Trials Product Validation Design Freeze	 Production Units Production Metrics Product Lifecycle Management

Definitions:

PDR - Preliminary Design Review

CDR - Critical Design Review

MRR - Manufacturing Readiness
Review

Optikos follows a different
product development
process for Medical Devices
and Government Contracts

