HELIX ENGINEERING

CAPABILITY STATEMENT

HELIX ENGINEERING LLC · Q3 2026

Independent engineering R&D practice, in continuous high-tech operation since 2008. Four programs spanning AI-native sensing hardware, statistical decision systems, composites manufacturing, and healthspan intelligence - each backed by shipped products, published data, industry awards, or third-party press. **US-incorporated with an international operating record:** award wins in Taiwan, Germany, and Belgium, and products manufactured and sold worldwide.

CORE COMPETENCIES

Artificial Olfaction TRL 5	11-sensor MEMS e-nose with five-model transformer ensemble; 99.5% classification accuracy across 7 odor categories (412/414 samples). ~$40 consumable cartridge BOM. Industrial safety, QA, defense.
Anomaly Detection R&D	Pseudobiological forager algorithm; every deployment action gated by a Šidák-corrected continuous hypothesis test (the Forager Gate). Predictive maintenance, physical AI, unknown-environment reasoning.
Composites & Autonomous Engineering SHIPPED	Inventor of the first production filament-winding process for carbon fiber rims; lattice-Boltzmann CFD; genetic-algorithm-driven autonomous design (Venn Var 77). B2B OEM via Venn and Velocite brands.
NousVita - Healthspan Intelligence LIVE	Free, privacy-first supplement safety platform: 372 substance entries, 531 clinician-reviewed interactions, NIH LiverTox integration, all user data on-device. Launched 2025 at nousvita.com.

DIFFERENTIATORS

- **Evidence over aspiration** - every capability claim is traceable to a shipped product, published dataset, award, or independent press.
- **Hardware-to-algorithm depth** - sensing hardware, statistical methods, and manufacturing under one roof; no integration seams.
- **Statistically gated AI deployment** - novel methods for deploying AI in unknown environments without "train once, deploy blindly."
- **18-year operating record** - continuous operation across automation, robotics, and computational physics since 2008.

PAST PERFORMANCE

2015	**Eurobike Award** - first production filament-wound carbon rim; one of 8 award wins 2010-2017 (incl. Taipei Cycle d&i 2012/2015, iF 2012, Golden Pin 2012, Velofollies Innovation 2017).
VAR 77	**First AI-developed bicycle rim** - autonomous CFD optimization; manufactured and sold globally; covered by Bikerumor and CompositesWorld.
2025	**NousVita platform launch** - live, free, clinician-reviewed supplement safety platform with NIH LiverTox integration.
REFS	bikerumor.com · compositesworld.com · en.wikipedia.org/wiki/Velocite_Bikes

CURRENTLY SEEKING

Research grants (SBIR/STTR-style); defense data partners for VOC and threat-signature training; industrial partners with high-dimensional sensor data for predictive-maintenance validation; investment for TRL 7 hardening of the olfaction platform; clinical research partnerships for NousVita.

COMPANY DATA

LEGAL NAME
Helix Engineering LLC

ESTABLISHED
Operating record since 2008

INCORPORATED
Wyoming, USA

ADDRESS
30 N Gould St, Sheridan, WY 82801

WEB
www.hlxeng.com

EMAIL
contact@hlxeng.com

UEI
Y4PAQ9H6RX23

CAGE CODE
Under application

NAICS
541715 · 334519 · 541330
336991 · 513210

KEY PERSONNEL

Viktor Major

Founder. Applied scientist - manufacturing, computational physics, machine learning. Science degree, MBA. Cofounder of Artidyn Robotics LLC (separate company; robot baristas).

linkedin.com/in/majorv

HEADLINE METRICS

99.5%
odor classification accuracy, 7 categories

531
clinician-reviewed interactions in NousVita

8
industry & design award wins, 2010-2017

VENTURES & BRANDS

nousvita.com
vennwheels.com
velocite-bikes.com