

### Products & Services



**M3-LS Linear Smart Stages**



**M3-FS Focus Module**



**M3-RS Rotary Micro Stage**



**Custom Motion Modules**

**M3 Smart Modules** integrate our patented piezo motors, position sensors, guide mechanisms and ALL drive electronics into tiny modules that deliver precise motion and easy integration into hand-held and portable instruments.

### About Us

New Scale Technologies develops and manufactures the smallest and most precise closed-loop positioning solutions available. Our M3 micro-stages and actuators are all-in-one “smart modules” with built-in controllers: easy to integrate into handheld and portable instruments. We enable smaller, smarter imaging systems, scientific instruments, medical devices, aerospace and defense systems and more. Our customers achieve the fastest time to market with the lowest total cost.

### Technology and Product Platforms

Since 2002, New Scale has secured 17 US patents and corresponding international patents in the development of piezoelectric motors and motion systems. These patents, combined with our proprietary know-how, enable us to create products with unmatched miniaturization, micrometer-scale resolution, fully-integrated micro-electronics and intelligent firmware.

Our M3 Smart Modules are “all-in-one” motion systems, with built-in electronics, that deliver sub-micrometer precision in the smallest smaller possible space. Each M3 Smart Module is a fully-engineered solution that integrates our patented and propriety piezoelectric motor, drive, sensing, guide and control technologies.

Our standard M3 Smart Modules include **M3-LS Linear Stages**, **M3-RS Rotary Stages**, **M3-FS Focus Modules**, and **M3-L Linear Actuators**. These compact positioning modules deliver ten times better movement precision and ten times the force and range of motion of VCM or stepper motor solutions. All standard modules can be purchased as Developer’s Kits from Digi-Key or Mouser.

Many custom M3 solutions are also in production at New Scale, including the MPM Multi-Probe Micromanipulator for life sciences. We work with our customers to solve their motion problems: applying our deep expertise in piezo motors, position sensing, drive electronics, digital motion control and micro-mechatronic design.

### Manufacturing

We manufacture modules for the medical, scientific instruments, aerospace and defense, and industrial markets in our New York facility. We are committed to fully understand, meet and exceed our customers' requirements through continuous improvement processes. Our manufacturing processes follow ISO guidelines and we have passed quality audits by major medical device manufacturers. For very high-volume markets, we work with manufacturing partners and technology licensees worldwide.

### Development and Manufacturing Partners

- **ams** ([www.ams.com](http://www.ams.com)) (SWX:AMS) is a strategic investor, development partner for high-performance analog ASICs, and worldwide sales partner. Together we have patented ICs that embody New Scale’s motion system expertise, including precise, low-power drive circuits and system-on-a-chip magnetic encoders.
- **ALPS** ([www.alps.co.jp](http://www.alps.co.jp)) and **Tamron** ([www.tamron.co.jp](http://www.tamron.co.jp)) are licensed high-volume manufacturing partners of New Scale’s Squiggle® piezoelectric motors.
- **TDK-EPC** ([www.epcos.com](http://www.epcos.com)) is a licensed manufacturer of advanced piezo-electric ceramics that enable our motors to operate directly from battery voltage.



## Milestones

- 2002** Founded by David Henderson
- 2003** First products ship
- 2004** First SQUIGGLE® motors ship
- 2005** First US patent: SQUIGGLE motor  
Series A equity investment
- 2006** Tamron licenses SQUIGGLE motor
- 2007** Two additional US patents and  
three industry innovation awards
- 2008** Series B equity investment from  
austriamicrosystems (SWX:AMS)  
Additional license agreements with  
Tamron, ALPS and TDK-EPCOS  
UTAF motor demonstrated  
Single-chip driver ASIC introduced
- 2009** Named to “Best Companies to Work  
for in New York” list  
Rotary piezo motors demonstrated
- 2010** Reduced-voltage SQUIGGLE motor  
First M3 Micro-Mechatronic  
Modules delivered to customers
- 2011** UTAF focus module demonstrated  
by tier-one phone camera supplier  
M3-L module wins *Design News*  
Golden Mousetrap award
- 2012** Two additional companies signed  
as intellectual property licensees  
10<sup>th</sup> anniversary, 10<sup>th</sup> US patent
- 2013** Two additional patents awarded  
First custom micro beam steering  
solutions delivered
- 2014** First M3-FS and M3-LS smart  
motion modules delivered  
15<sup>th</sup> US patent awarded
- 2015** Additional micro beam steering  
solutions introduced
- 2016** 16<sup>th</sup> and 17<sup>th</sup> US patents awarded  
Multi-Probe Micromanipulator ships  
COBRA fiber positioner in production
- 2017** Longer-travel, higher-load M3-LS  
micro stage introduced

## Financial

New Scale is privately held entity. Our investors include our strategic partners, venture capital company Trillium Group, and several individuals including members of the Rochester Angel Network.

## Management

### David Henderson – CEO and Founder

David has more than 30 years of experience in engineering, technology innovation, new product introduction, worldwide market development and business operations. Before founding New Scale in 2002, he was director of positioning products at Burleigh Instruments (now EXFO) where he achieved 300% revenue growth with 20% EBITA over six years. He has prior experience as program manager and mechanical engineer with Contraves USA. He has published or presented numerous papers and holds several patents including patents for SQUIGGLE motors and systems. He has a BS in mechanical engineering and an MBA from Carnegie Mellon University.

### Allison Leet - VP Finance and Planning

Allison joined New Scale in 2012 with more than 30 years of experience in finance and operations management. She was general manager, CFO and executive VP with full P&L responsibility for Corsair Display, growing the company from \$1.2M to \$8M over eight years. She has additional experience as CFO and executive VP for a medical real estate and construction company; controller for a machining company; a finance, quality and manufacturing supervisor at Delphi Automotive; and a finance and business process consultant. Allison has a BS in management science from Nazareth College and an MBA in business administration and finance from Rochester Institute of Technology.

