

# New Scale Technologies

MICRO MOTION  
FEASIBILITY STUDIES

## The first step to *faster,* *lower-risk* product development

We start with **your idea** and provide two weeks of **dedicated engineering time** to...

- Collaboratively define system requirements
- Create and evaluate design concepts for a mechatronic system
- Deliver an objective report that includes:
  - Solid models and schematics
  - Engineering analysis
  - *If the concept is feasible...* a proposed motion module development plan for fastest commercialization
  - *If it's not feasible...* recommendations for alternative specifications, designs, technologies and suppliers

### You know what you want your product to do. We know the micro mechatronics.

New Scale's micro mechatronics team has extensive capabilities in creating the smallest and most fully integrated motion modules... and much more! Our capabilities derive from decades of experience creating and using:

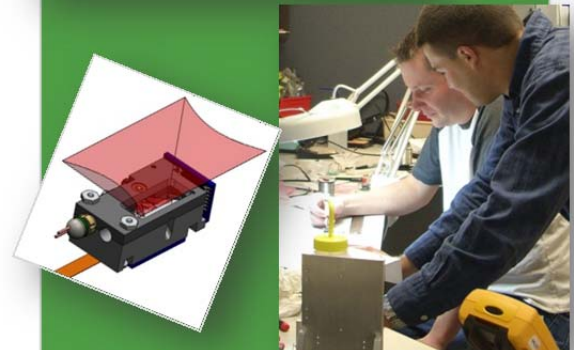
- miniature piezoelectric motors
- efficient and robust mechanisms
- low-power drive and sensor ICs
- microprocessors with embedded firmware control
- sensors and systems for imaging, optics, ultrasonics, stabilization and haptics
- components for lasers, optics and microfluidic systems

We understand the challenges of building tiny motion modules "on a new scale" where every millimeter matters. At this smaller scale, design rules change and the constraints of force, friction, stiffness, stability, precision, power and efficiency must be evaluated differently. Save time and money: take advantage of the New Scale experience!

### Fixed-fee, low-risk first step

You get 80 hours of our dedicated engineering time for a fixed fee of \$14,000. All work will be completed under a mutual non-disclosure agreement. Call (585) 924-4450 or email [NSTsales@newscaletech.com](mailto:NSTsales@newscaletech.com) to get started.

SMALL, PRECISE, SMART ... IN MOTION



**You're creating next-generation products.**

We help you

...build them **smaller**

...make them **smarter**

...do it **faster!**

### PROJECTS LAUNCHED WITH FEASIBILITY STUDIES

- A laser beam steering module with two independently positioned and orthogonal mirrors in a volume of 6 x 10 x 20 mm. Created for a large computer company.
- A two-axis (theta-phi) fiber positioning module with a diameter less than 8 mm and position resolution of 5 micrometers.
- A micro pump with precise flow control, independent of back-pressure. Evaluated for low-power implantable drug delivery.
- A rotary stage module with precise zero-jitter positioning. Created for portable navigation systems.
- An implantable, adjustable-length rod mechanism with very high force and static load capabilities. Created for treating pediatric scoliosis.

## Start a feasibility study with New Scale Technologies

1. Sign a mutual non-disclosure agreement
2. Provide as much information as you can, such as sketches and a narrative description
3. Review the following checklist of information with us:
  - Your application
  - Maximum system size
  - Size and mass of what is moving (payload)
  - Number of axes of motion
  - Motion characteristics
    - Rotary or linear
    - Range of movement
    - Force to move/force to hold
    - Speed
    - Precision of movement (resolution, repeatability, accuracy)
  - Off-axis (orthogonal) motion precision (runout, yaw, pitch, etc.)
  - Other system characteristics
    - Desired input power and voltage
    - Duty cycle/use case
    - Lifetime
    - Operating environment (temperature, humidity, shock/vibration, other)

