

## about us

Kinea Design offers enlightened research, development, and design services. We **specialize in human-machine motion control**, including Intelligent Assist Devices for ergonomic materials handling, rehabilitation robotics, exercise machines, advanced prosthetics, and biomedical instrumentation.

Kinea Design's development process is guided by *user-oriented observational* research. Understanding real users, in real tasks, set in real contexts, leads us to a thorough understanding of the terrain before we commence design. We believe that our user-centered approach, backed by a proven team of human-machine design engineers, clinical researchers, and commercialization experts, uniquely positions Kinea Design to bring new technology into practice.



## the team

Kinea Design's core team includes university researchers with a track record of successful technology transfer, a staff of experienced and efficient full-time engineers, and dedicated clinicians for some of our biomedical projects. The Kinea Design team is complemented by a network of engineering consultants. Our core+consultant structure allows us to take on large projects and produce timely results, while remaining a small agile company at heart.

Our team includes **experts in Haptics, Controls, Mechatronics, Mechanical Design, and Human Movement Sciences.**

## our capabilities

Our engineers and project managers are **experienced in the development of**

- **electro-mechanical devices,**
- **sensors,**
- **controls systems,**



- **haptic interfaces,**
- **mechanical systems,**

**as well as engineering analysis,** among other engineering competencies. In addition, we partner with talented consulting firms in the areas of electronic and industrial design, and regulatory issues.

## services

### **- engineering design -**

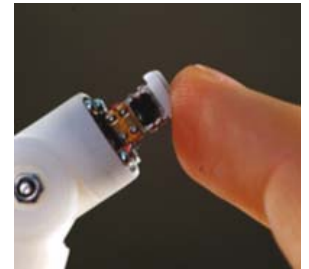


Be it a completely passive mechanism or a complex actuated robotic device, Kinea employees bring years of experience.

We have **developed systems ranging from industrial intelligent assist devices for automobile production, to transmissions for prosthetic arms, to robots for physical therapy.**

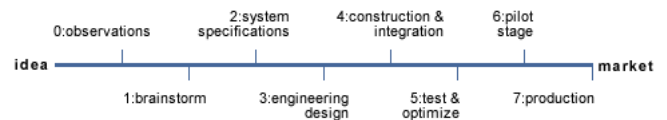
We have developed many novel sensors and welcome the challenge of developing sensors for unique needs.

Our design and development activities are guided by careful user studies and appreciation of the nuances of human interface, especially physical interface.



### **- product development -**

Be it a new product design or refreshing an existing design, Kinea has the engineers, design tools and process to transform ideas into products.



Kinea can work on one or all of the above development stages as your needs require.

Since our inception in 2003, our project management has been reliably on-time and on-budget.

## - prototyping -

Fail early; fail often. Failing early - when you can still afford to - and failing often - in order to learn as much as possible - is truly imperative in order to succeed sooner.



Early prototyping is a critical part of our engineering development activities.

## - clinical research -

At some point during the development process for medical devices, clinical testing must occur to validate the application of the device and to determine efficacy for specific users. Kinea Design has expertise with clinical research/clinical testing, including grant-writing, protocol development, clinical expertise, and user-oriented device development.

## portfolio

Kinea design is proud to have an **award winning portfolio** and have been involved, either solely or collaboratively, with our clients in the development of cutting edge and novel technologies.



Our portfolio includes projects on:

- human/robot collaborative motion
- human machine interface
- bio-medically oriented projects
- prosthetics (bionic arm)
- machines for rehabilitation
- robotics in medicine and biology
- haptic interfaces
- meat processing assist technology

2005 INDUSTRIAL DESIGN EXCELLENCE AWARDS



We have also been key participants in award winning projects such as the KineAssist™

development (solely developed by Kinea Design) and DARPA's *Revolutionizing Prosthetics 2009 program*.

## clients

- DEKA Research
- John Hopkins Applied Physics Lab (JHU/APL)
- Meat & Livestock Australia
- Methodist Hospital (Houston)
- New World Associates
- Northwestern University
- Rehabilitation Institute of Chicago (RIC)

## kīnēa in the news (among other)

(Note that Kinea Design was formerly Chicago PT)

### Revolutionizing Prosthetics 2009 Project

- **Design News** (December 2007): [Engineers Pitch Medical Marvels with Motion Systems](#)
- **Wired Magazine** (August 7, 2007): [The World's Most Advanced Bionic Arm](#).
- **Popular Science** (August, 2007): [Bionic Made Better](#)
- **Popular Mechanics** (August, 2007): [Top 4 New Breakthrough Medical Devices: Live @ DARPA Tech](#)
- **YouTube** (August, 2007): [Video - DARPA's Bionic Hand](#)

### KineAssist™ Project

- **JAMA** (The Journal for American Medical Association, September 14, 2005 - Vol. 294, No.10) article: [Rehabilitation Medicine Welcomes a Robotic Revolution](#), by Rebecca Voelker.
- **LA Times** (January 30, 2006): In The Lab by Chris Woolton, [Rehab's robotic revolution](#).
- **Advance for Physical Therapists & PT Assistants** (Vol. 16, Issue 19, Page 61 - August 29, 2005): [Walking This Way: KineAssist offers therapists, patients new options](#), Rob Senior.
- **MIT Tech Review** (September 2005) article: [Robotic Rehab: Chicago PT wants to help stroke survivors learn to walk again](#)

## how to reach us

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