Why fluid power is important?
- Survey of 31 industrial companies
- Fluid power transmits 2.1 - 3.0% of the energy consumed in the US
- 14% reduction in US energy use worth $2.5B
- Average fluid power efficiency is 22%
- Sales of fluid power components exceed $17.7B
- Sales of systems using fluid power exceed $2.5B

Conclusions
- Huge potential for energy cost savings & emissions reductions in current applications
- Extending the use of energy saving fluid power technologies to new industries and applications will provide additional savings
- Opportunity for creating new businesses and jobs

What is the major challenge being addressed?

CCEFP Mission & Vision

CCEFP major goals
- Making fluid power compact, efficient and effective
  - Compact means smaller and lighter for the same function.
  - Efficient means saving energy.
  - Effective means clean, quiet, safe and easy-to-use.
- Major goals
  1. Doubling fuel efficiency in current fluid power applications
  2. Expand fluid power use in transportation
  3. Create portable, untethered human-scale fluid power applications
  4. Ubiquity - fluid power that can be used anywhere

What progress has been made?
- Since its inception:
  - 121 BS, 97 MS and 51 PhD students graduated
  - 11 PhDs in the last year
  - 45% of CCEFP graduates working in fluid power
  - 67 student internships in industry
  - 443 publications
  - 24 journal publications in the last year
  - 52 inventions disclosed; 36 patent applications filed
  - 13,232 attendees at short courses, workshops and webinars (5000 currently attending MOOC)
  - 70,055 K-12 students attended events

Who are our industry partners?

Processes & New Technologies
- Suppliers, Fluids & Lubricants
- Components & Systems
- OEMs

Supporters
- Boeing
- Bombardier
- Cooper Industries
- Eaton
- Emerson
- Honeywell
- Ingersoll Rand
- JLG Industries
- Johnson Controls
- Parker
- Parker Hannifin
- Sauer Danfoss
- Siemens
- United Technologies
- Whittaker

Book released citing CCEFP as the model for boundary-breaking collaboration with industry