• Good afternoon
• My name is Tim Alter
• I am the Construction Innovation Forum Executive Committee Chair and
• With me today is Rasha Stino and Bob Carr
• Rasha is CIF Editor and an Executive Committee Member.
• Bob is a CIF Founding Director, Vice-Chairman Emeritus, and Founder of the NOVA Award.
• We are here today to propose a COLLABORATION between CURT and CIF.
• The purpose of such a relationship would be to increase the pace of innovation in our industry.
Our Goals Are One

<table>
<thead>
<tr>
<th>CURT/Owners</th>
<th>CIF</th>
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<tbody>
<tr>
<td>Recognize construction excellence, <strong>promote</strong> industry best practices and <strong>drive</strong> improvements in <strong>construction performance</strong></td>
<td>Recognize, promote and disseminate information on innovations that <strong>improve quality and cost effectiveness of construction</strong></td>
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We at CURT and CIF share the same cause

As you can see our goals are in alignment
• This slide illustrates that productivity in the construction industry is not keeping pace with other industries

• Innovation is one of the most significant drivers of productivity.

• Our industry needs significant improvement and we need it now

In the Electronics industry 2 years and a computer is obsolete

In the construction industry we use the same means and methods for decades

We are not keeping pace with the rest of the world
We believe at CIF that you get what you ask for

Owners asked for construction safety improvement in 1993 and again in 2001
YOU GOT RESULTS!

Owners have had a positive impact on improving safety performance in the construction industry.
CURT and CIF can Improve the Pace of Innovation in Construction

We performed a survey of your organization two weeks ago regarding innovation

Rasha will review those results with you now

Rasha
“One of the biggest owner frustrations is the lack of progress in technological innovation in the construction industry.” ENR 2003

• Thank you, Tim

• Owners have clearly been expressing concern over the pace of change in construction. In fact CURT Owners stated that, (read quote from 2002 ENR).

• This survey gave us the opportunity to quantify and better understand your opinions and preferences regarding construction innovation.

• We had an excellent response rate. 47 of you responded to our survey and this is what you had to say:
• 77% find innovation in the construction industry important to crucial to your company’s success.
• More than half of you believe that innovation is an important factor in selecting contractors to perform construction work for your company.

• This is an important message to the contracting community, in fact, in a 2002 ENR article, Owners and CURT Members indicated that contractors who are not up to speed are left behind at bidding time.
• When asked to rank the criteria that you found most important in deciding to use an innovation on your construction projects:

  • Almost 90% of you ranked Reduces Construction Cost and Improves Worker Safety in the top 3 criteria.

  OR

  • 89% of you placed Reduces Construction Cost in the top 3
  • 87% placed Improves Worker Safety in the top 3
• About two-thirds of you feel that:

  • Increasing Construction Speed &
  • Improving Project Quality

  are a close tie in the top three criteria for selecting an innovation for your construction projects.
“Construction firms seem to cling to old business models and processes.” ENR 2003

Next, we asked you which segments of the construction industry are in most need of innovation:

• Construction Methods came in as the #1 area in most need of innovation, or as you put it (read ENR quote)
• Worker Safety was ranked as the second segment in most need of innovation, followed by

• Design at #3 (in fact, Owners/CURT noted in the 2003 ENR article that the design community, like the contracting community, is not taking advantage of technological innovation).
Finally, when asked “What is the greatest barrier to incorporating innovations on your construction projects?”

- 46% of you identified “Lack of awareness about applicable innovations,” and
- 30% of you identified “Reluctance on the part of contractors.”

Other individual answers were:
- “Unwillingness to take risk, i.e. be first to prototype.”
- “Whole concept of innovation not part of construction culture.”
- “The OWNER has to REQUIRE innovation from suppliers or IT WILL NOT HAPPEN.” (Emphasis by respondent)
- “Risk aversion”
As Tim stated earlier, we believe that you get what you ask for. As Owners and Members of CURT you can and ARE DRIVING improvements in the construction industry that have and will continue to bring about progressively better Industry Practices.

Owners/CURT Driving construction innovation can lead to:

- More Cost effective projects
- Faster Schedules
- Safer Projects and
- Higher Quality Work
Rasha: Next, Bob will discuss the Construction Innovation Forum’s various efforts to deliver construction innovations to you, the Owners, and the construction industry….Bob

Bob: CIF is a grass-roots, all inclusive, industry wide, 501.c.3 organization formed in 1986 to recognize and encourage innovation in construction.
CIF created the NOVA Awards in 1989 to recognize the most outstanding innovations worldwide that have proven to improve quality and reduce costs.
• Among construction awards, the NOVA Award is unique.
  
  • First, it addresses the full breadth of facility construction and maintenance.
  
  • Second, CIF itself identifies important innovations and directly solicits their nomination. (This produces two-thirds of the nominations received.)
  
  • Third, the 475 nominated innovations form a unique database.
  
  • Fourth, the Jury selects a short-list of the best 7 to 10 innovations for in-depth CIF investigation.
  
  • Fifth, the Jury selects NOVA Award winners based on the investigations.
  
  • Sixth, CIF prepares a script and a video on each winning innovation, which is shown at the Banquet and distributed broadly.
• The CIF has presented 63 NOVA Awards, originating in 11 countries, over its 15 years.

• NOVA Award innovations span construction, from safety and training to advanced imaging, to on-site child care to automation to moisture protection.
These 17 NOVA Award innovations directly involved construction owners. I will show several of them.
• Major power plant owners, contractors, and the Boilermakers created the MOST nationwide programs in safety, drug testing, welder qualification, and project manning.

• This reduced boilermaker lost-time injury rates by 95%, from 13.54 injuries per 100 workers to 0.70 in seven years and saved owners a billion dollars.

• This inspired Detroit area building trades, contractors, and owners to develop the “Safe2Work” program.

• These, in turn, inspired the AFL-CIO Building Trades to institute the “Smarter Skills and Security System” nationally.
• In one short North Sea construction season, Phillips Petroleum built a massive circular concrete sea wall to protect Ekofisk, its largest North Sea oil field.

• The base was cast in two halves at Rotterdam, Holland, then shipped to Alfjord, Norway for additional slip forming.

• The two halves were then floated and towed into position, joined by post-tensioning, and sunk using gravel ballast.
• On its Monroe Power Plant retrofit, DTE Energy set contractor innovation as a primary contract criteria.

• Laser scanning 3D as-builting was one of the innovations employed, and it alone saved 10 million dollars.
• British Gas, PLC of the UK developed the pipebursting machine, which is now used widely to replace old and undersize gas and sewer lines.

• The pipebursting machine is pulled through fracturable pipes, such as concrete, clay, or cast iron pipes, breaking the pipe into pieces, and pulling into place a new plastic pipe of the same or larger size.
The CURT survey showed the greatest barrier to incorporating innovations in your projects is lack of awareness of applicable innovations.

The 475 construction innovations in the free internet searchable CIF database provides one solution.
• The “search” hyperlink at cif.org links to a Google search of the CIF database.

• Entering one or more keywords for the Google search, “safety” in this example, pulls up a list of relevant innovations, shown here, of which there are 80 innovations involving safety.

• Each item’s hyperlink, “Safe2Work” in this example, links to a description of the innovation and a point of contact for additional information.
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### Innovations in Database

- Safety: 80
- Quality: 68
- Cost/Value: 154
- Structure: 105
- Composite: 68
- Concrete: 153
- Steel: 129
- Computer: 77
- Workers: 126
- Automation: 46
- Manage: 73
- Contractor: 87
- Owner: 48
- Seismic: 23
- Soil: 46
- Roof: 45

Note: Many innovations impact more than one area.

There are many innovations in the database on any construction topic.
• The CIF freely distributes publications via the internet on innovations and construction innovation research.
• NOVA Award investigation reports are also available to researchers upon request.
CIF PUBLICATIONS AT WWW.CIF.ORG

- NOVA Nominations and their Annual Summaries
- “Annotated Bibliography of Construction Innovation”
- “Construction Industry Innovation” BRT Construction Conference
- “Construction Users and Innovation” (this presentation)
- Detroit Owners’ Role in Construction Improvement
- *Construction Business Review* “Technology” column
- Annual “Mock Jury Kit”
- Nomination Investigation Reports (w/ 5 yr delay)
- *Innovator* Newsletter

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Looking back 17 years, the CIF invented the term “construction innovation,” and its NOVA Awards proved “construction innovation” was alive and important and not just an oxymoron.

The CIF assists other construction innovation awards and organizations, such as the CERF Construction Innovation Centers and the Charles Pankow Innovation Award.

Just as the BRT CICE project inspired CERF, CII, CIF, and CIFE, the CIF and NOVA Award inspired a host of construction innovation initiatives worldwide, including those shown here.
ASSIST/INSPIRE INNOVATION PROGRAMS

- CERF Construction Innovation Centers & Pankow Award for Innovation
- Henry C. Turner Prize for Innovation in Construction Technology
- CII Emerging Technologies Project
- Great Lakes Construction Alliance (GLCA): Safe2Work Program & Gender and Race Diversification Excellence (GARDE) Award
- Construction Innovation, an ejournal by Arnold Journals On-Line
- Construction Innovation Forums 2001, 2003, National Research Council, Canada
- DTE Energy, City of Detroit, DuPont, General Motors, Michigan DOT, University of Michigan, BRT Construction Group
- Master of Science in Construction Innovation in UK: Loughborough University, Glasgow Caledonian University, University of Strathclyde
- Australian Center for Construction Innovation (ACCI)
- Cooperative Research Centre for Construction Innovation, Australia
- European Council for Construction, Research, Development, and Innovation (ECCREDI), European Commission, Belgium
- Built Environment & Manufacturing Innovation, bimonthly, Australia
- Construction Business Review and its monthly “Technology” column

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