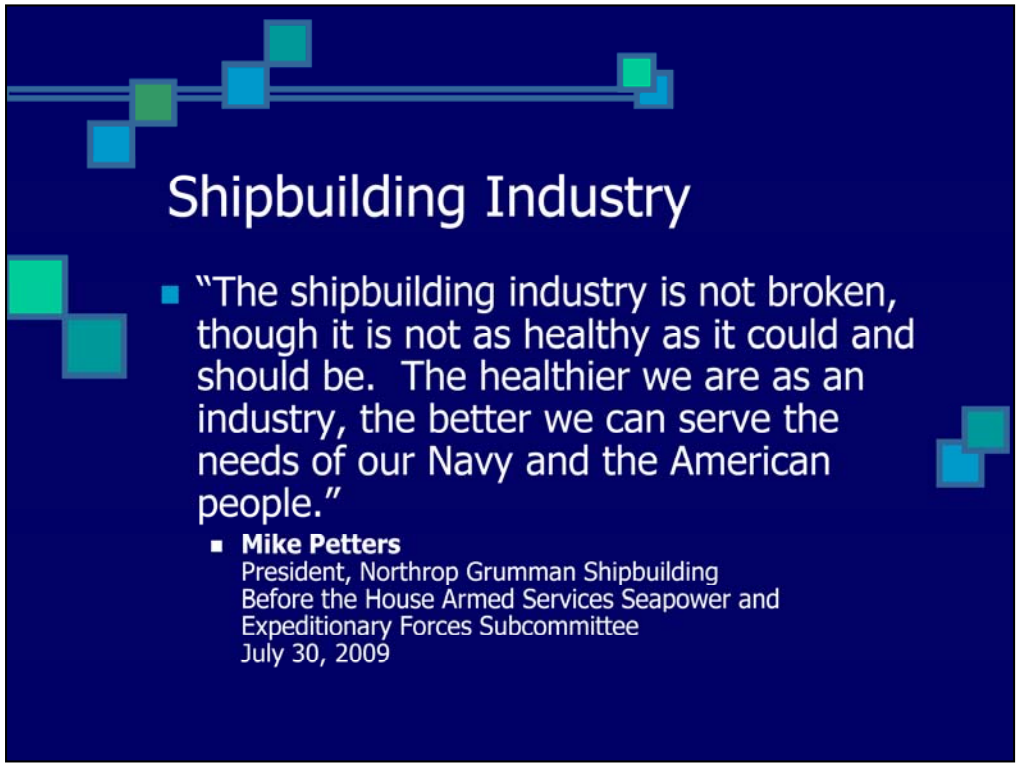
Welcome to a conversation on workforce training and retention.

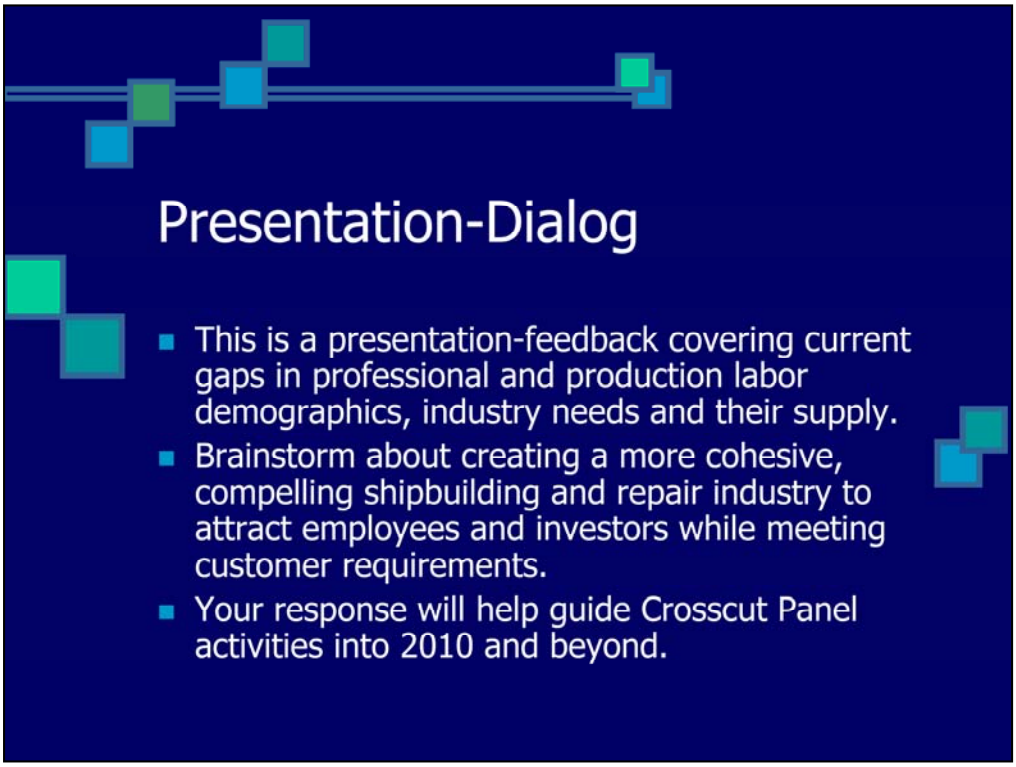
Introductions



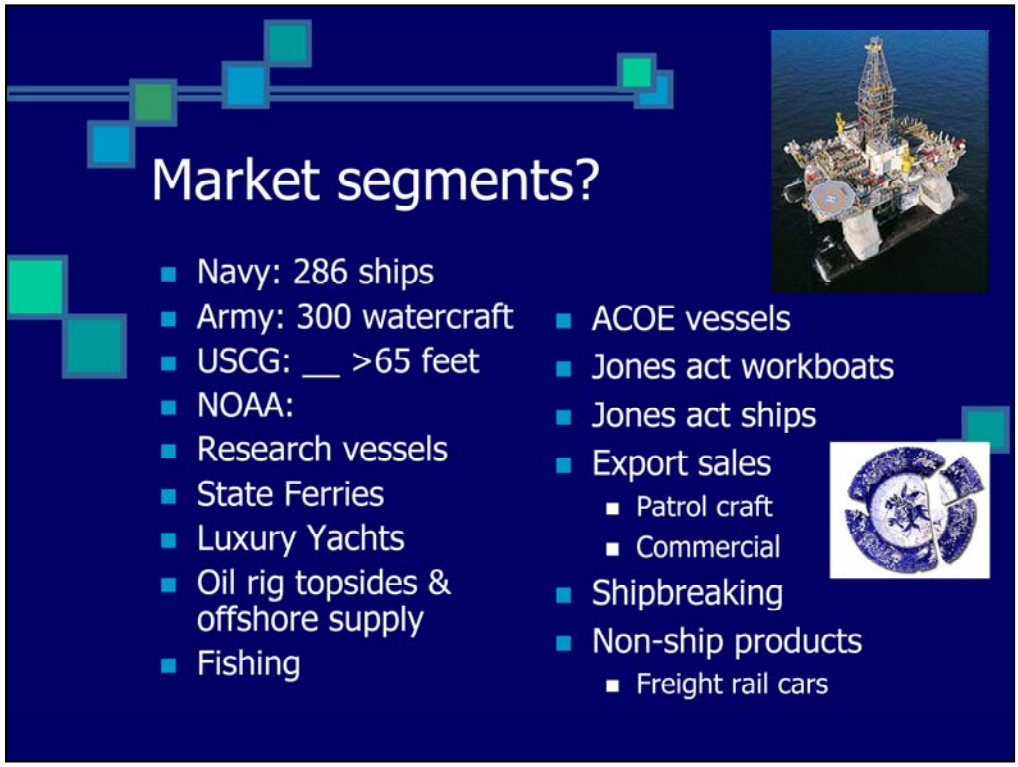
This statement by Mike Petters to the House Armed Services Committee represents the shipbuilding and repair industry over at least two decades.

So our industry may not be broken, but is it cracked a bit?

This presentation and discussion is focused on these three questions.



We want to go through some presentation then open the discussion to our questions and your questions and comments.



Scan through the list of market segments in our industry.

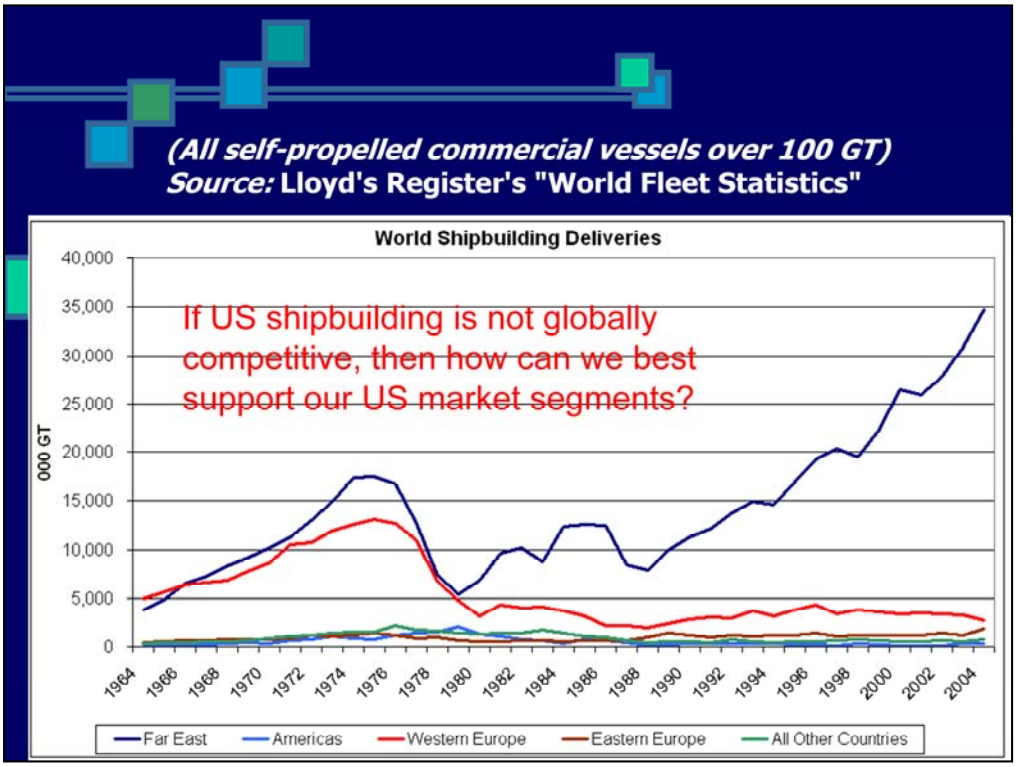
Do companies and organizations in these market segments collaborate around common problems and issues?

Most common issues are around regulations, energy or other public infrastructure, and people matters.

In NSRP, our charter is to focus on ways to make Navy ships more affordable in acquisition and life-cycle operations.

The tools and methods that make any other market segment viable or even competitive have lessons learned.

Should some of these other market segments be invited to participate more in NSRP activities?

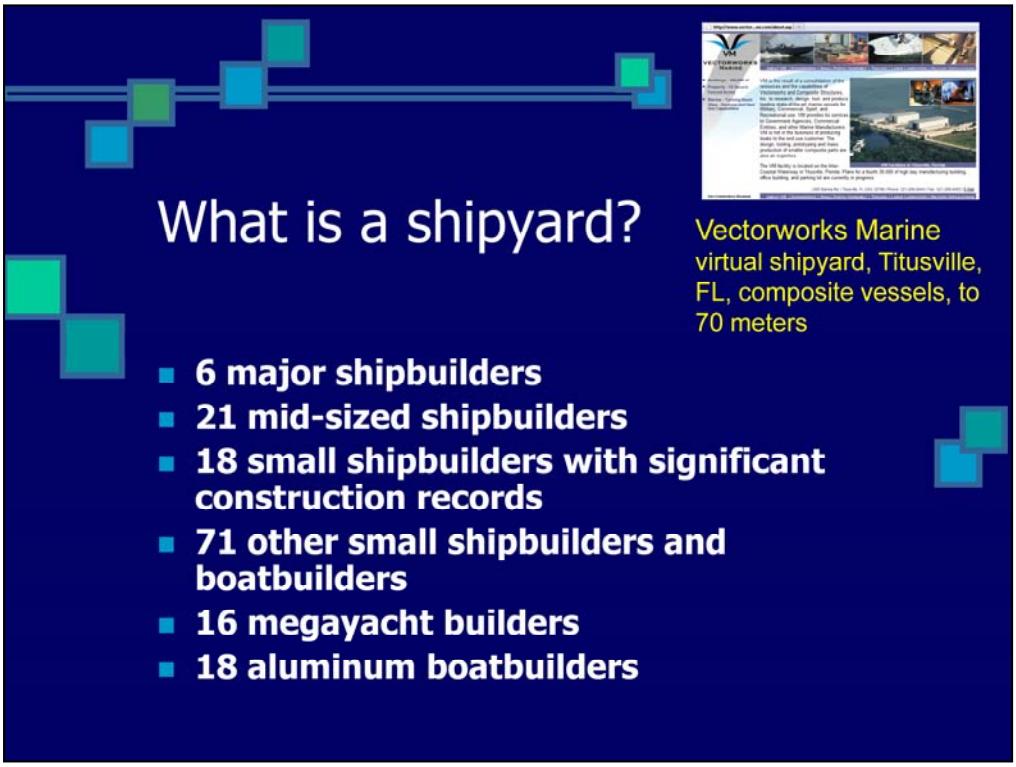


This graphic suggests that the US, the light blue line at the bottom, lost global competitiveness

If US shipbuilding is not globally competitive, then how can we best support our US market segments?

The definition of what is a ship is blurring. Materials for ships are normally steel, but also aluminum, and increasingly composite materials.

Is there collaboration between market segments around materials science, and around advanced production processes, equipment, tooling, and workforce matters?



Tim Colton categorizes shipyards into these six groups.

What is a shipyard? Is the definition changing?

There is exploration around ‘virtual shipyards’. A final product may be a mix of components small enough to be land or air transported to an assembly and systems integration site.

Vectorworks Marine in Titusville has contracts to design-build patrol craft for export.

Folks from this shipyard have asked Crosscut for some people advice – there are common elements between shipyards.

Is our industry fragmented organizationally?

Fragmentation is caused by geographic distribution.

Fragmentation is caused by market segment connection to technical authorities like NAVSEA who serves Navy,

The Volpe Center, part of the Department of Transportation Research and Innovative Technology Administration, serves Army watercraft.

Coast Guard and many commercial customers are served by American Bureau of Shipping.

Our industry has two trade associations: ASA and SCA.

We have multiple professional organizations that overlap such as SNAME and ASNE.

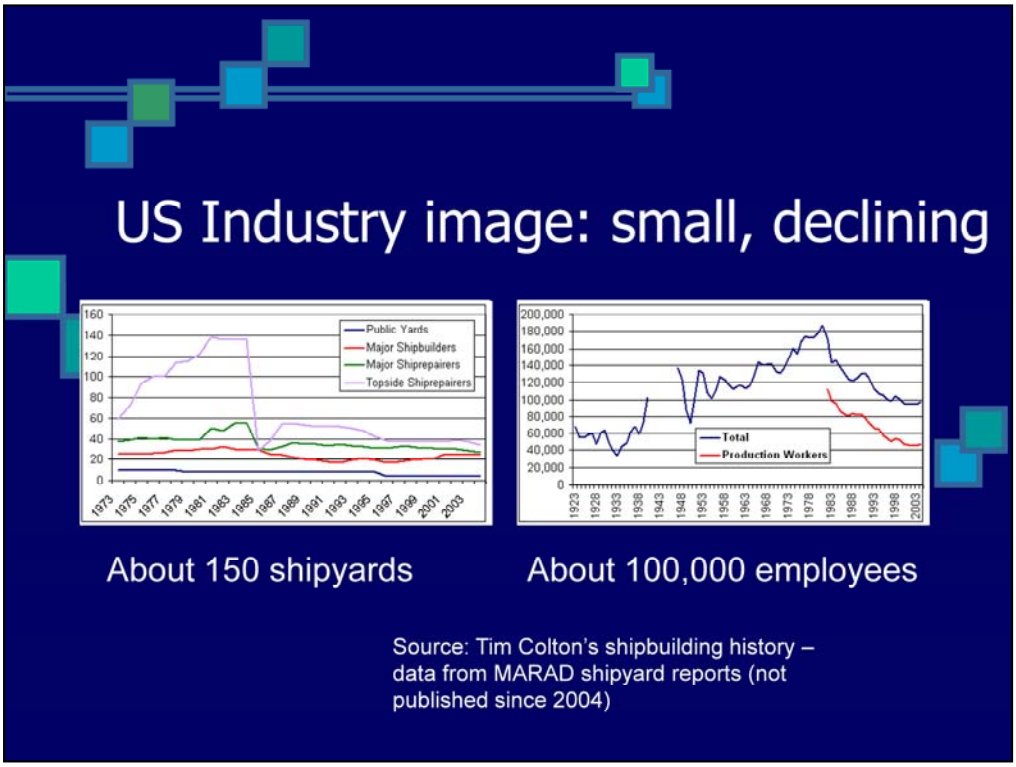
Do these organizations collaborate?

At least four Federal government departments have responsibility for operating or maintaining ships.

Congressional interest in the shipbuilding and repair industry is somewhat related to spending in districts.

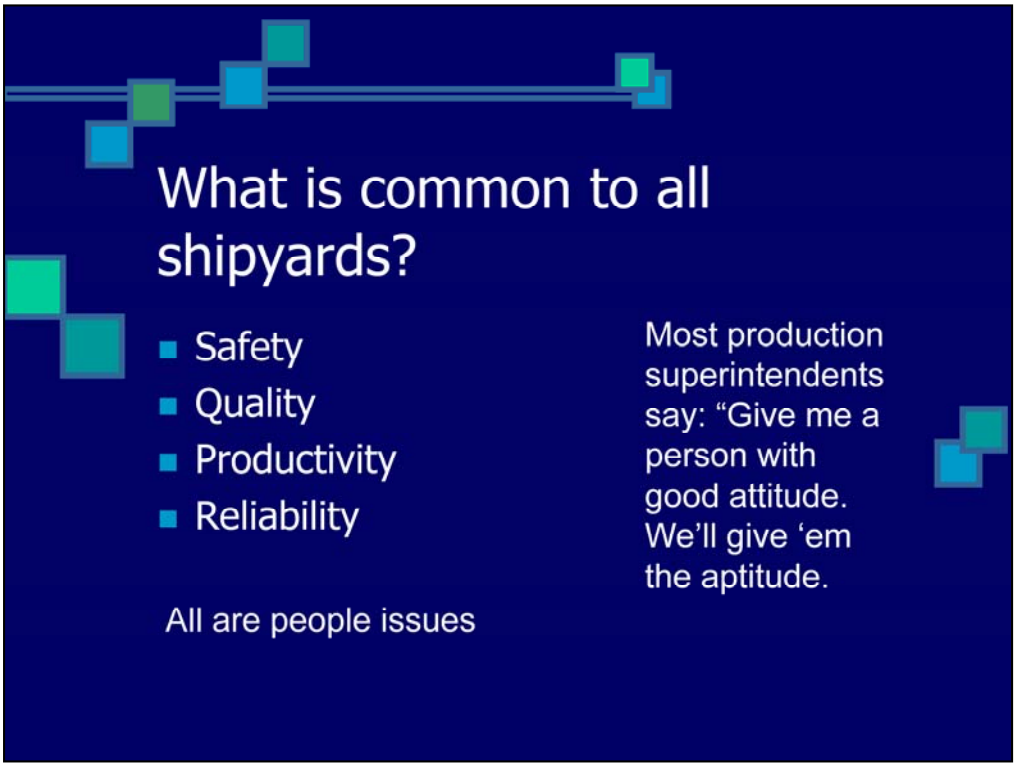
Story: in 2005 Crosscut invited representatives from US Departments of Labor, Education, and Commerce to talk about employee education – a topic in each of their charters.

Then we were surprised to discover none of these offices worked with each other.



These charts portray data from US Maritime Administration and US Bureau of Labor Statistics. Data gathering for these reports stopped in 2004 because of budget constraints.

Key point is that our industry is small, only about 100,000 employees yet we compete with other manufacturing, automotive, aerospace, construction, and others for production and engineering talent. Go to Google, search on careers in shipbuilding, and then compare to careers in these other fields. Web hits outnumber shipyards 170:1.



If we consider collaboration across market segments and customers, shipyards are common to ships, right?

And what is common to all shipyards?

Story: SENESCO Marine conversation with Metal Trades Department

All are people issues

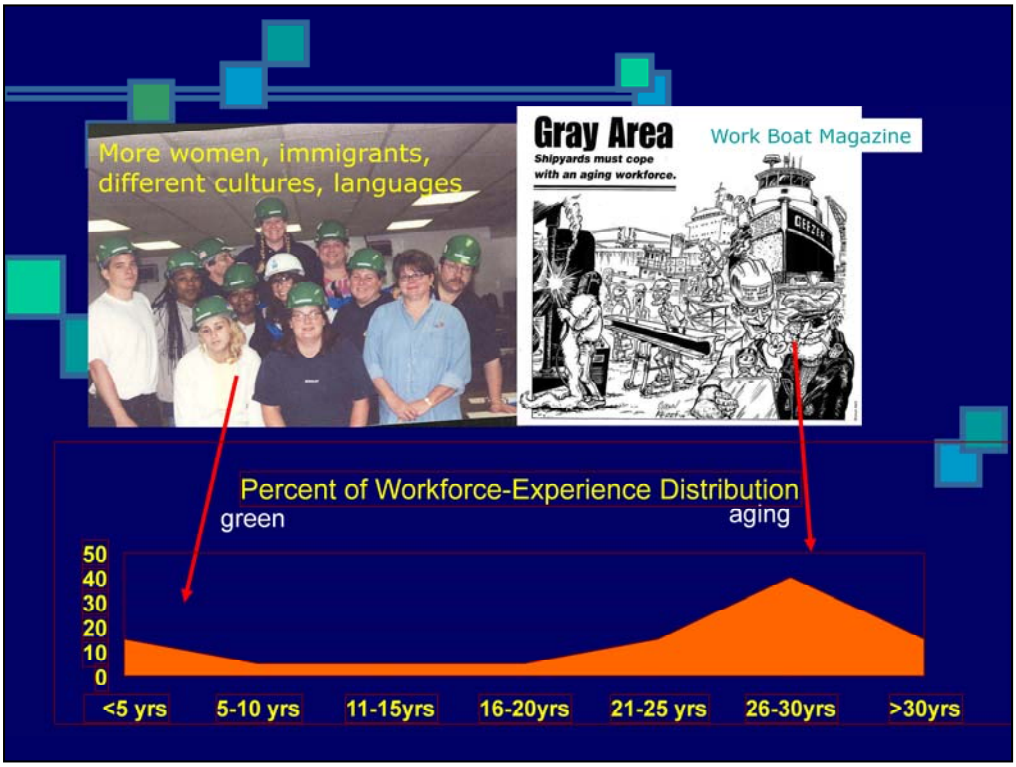
So here's our first big question.

Will you recommend our industry to your children? Get show of hands.

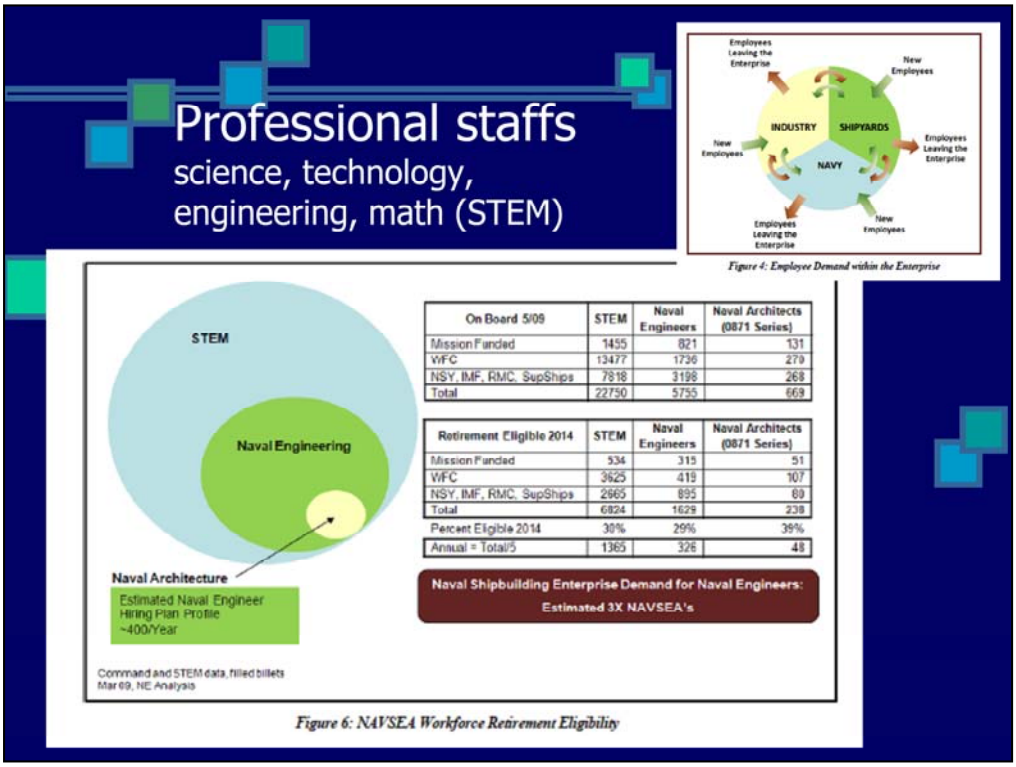
Who will design, build and repair government, commercial and luxury yacht vessels in 2020?

What, me worry?

Let's dig in a bit more.



Think about who builds and repairs ships. In most shipyards, people are either more than 45 years of age with more than 20 years of experience … or less than 30 years of age and have less than five years of experience. That is, the industry faces issues related to both an aging workforce and "green labor."



Earlier this year, NSRP members and others reviewed ways to deal with an uncertain pipeline of science, technology, engineering, and math professionals to replace those in the ship enterprise.

Dick Boutwell will review this topic later this afternoon.

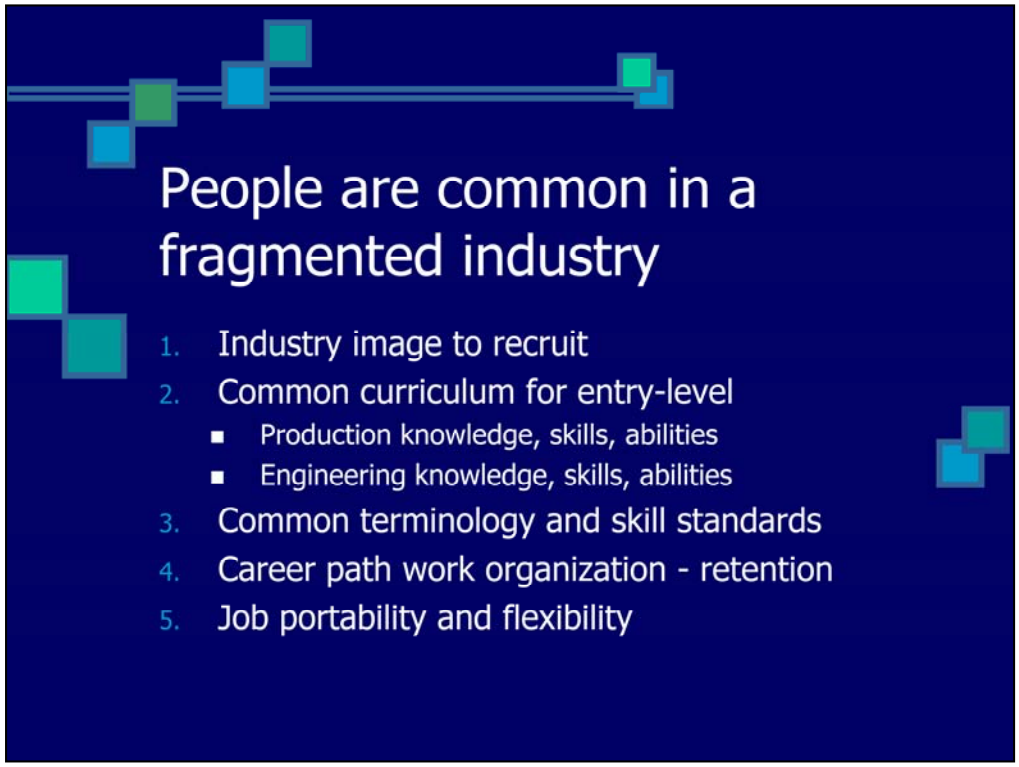
But key points are in thinking about how professional people flow during their careers in and between segments of our industry.

Our demand studies indicate that about 35 percent of current STEM folk are eligible to retire in the next 4 years and there is lots of competition for this talent from other industries.

It's time for the so what response.

So what. If we're not globally competitive, how can our shipbuilding and repair industry best serve its major US market segments?

If a problem in our industry is fragmentation, is collaboration an approach to consider?



While regulations, energy, and infrastructure are common in our industry, people are common also.

So here is the Crosscut Initiatives Panel laundry list of five people areas to consider for collaborative work.

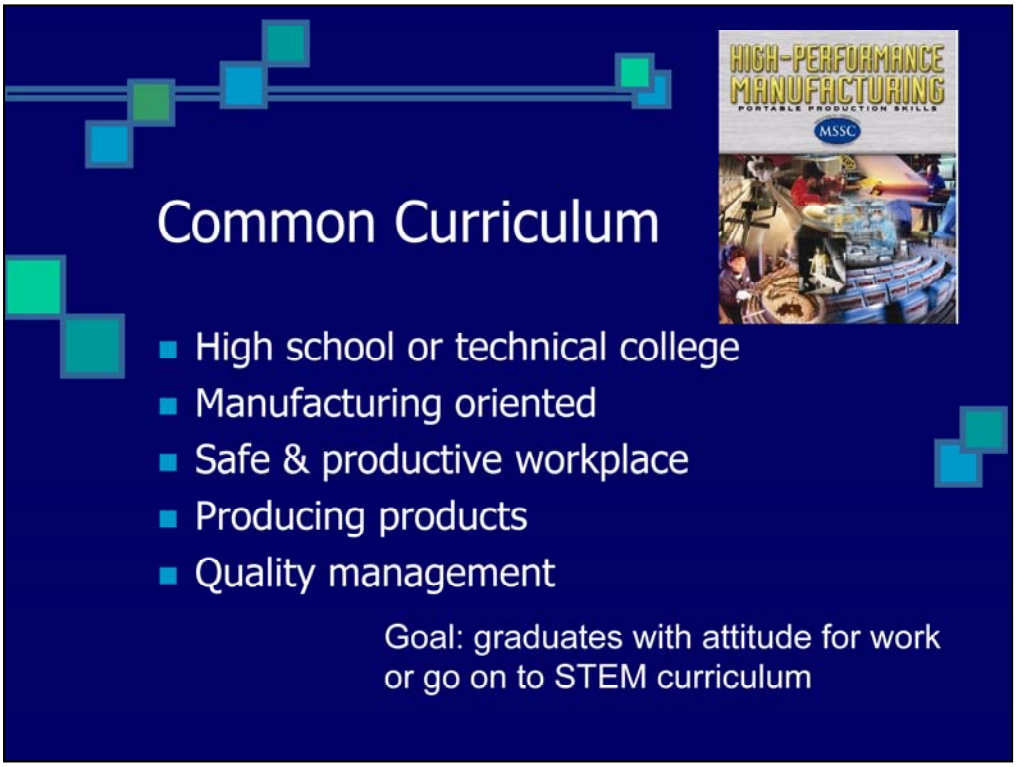
We'll go through each of these briefly and then ask for your discussion on what we're saying.

What is our industry image?

The first part is how our country thinks about America as a continental nation as Jefferson did, or an island nation as Hamilton did.

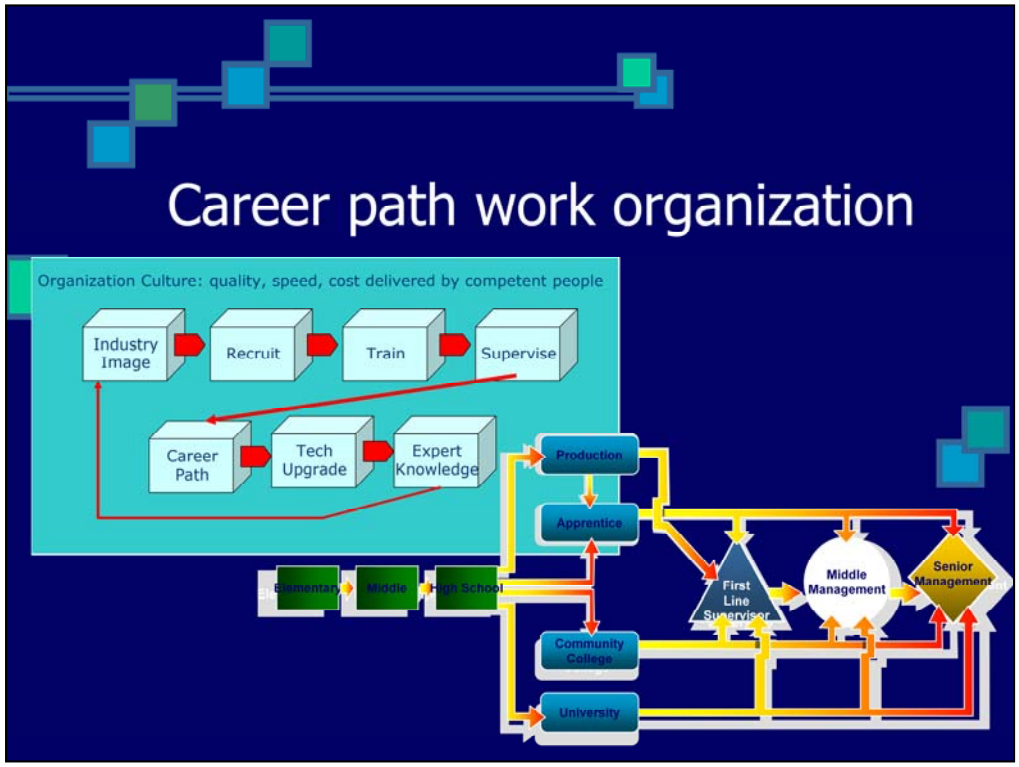
Navy and Naval War College folk completed an extensive conversation with the nation to make the case that America needs to be connected with the world through our oceans. About 95 percent of all American commodities and goods import and export by water. Much moves port to port and via rivers by water. Can we make the case to our families, friends, and communities that America's security and commerce depend on good ships.

The second part of industry image is how Americans think about the shipbuilding and repair industry. Because of many of the fragmentation factors, most people in the country probably don't think about or understand how ships are designed, built, maintained, and disposed of at end of life. Crosscut Initiatives Panel set up a national web site, www.goships.com, to provide realistic generic information about ships and shipyards. The site is tuned for prospective employees – students and job changers, educators, parents, career counselors, and employers. We'll be asking for additional resources to improve and expand this resource. Your help to review and critique would be appreciated. NSRP also funded effective shipbuilding and repair career days in two locations last year. Details on this program, that could be replicated in any community are available.

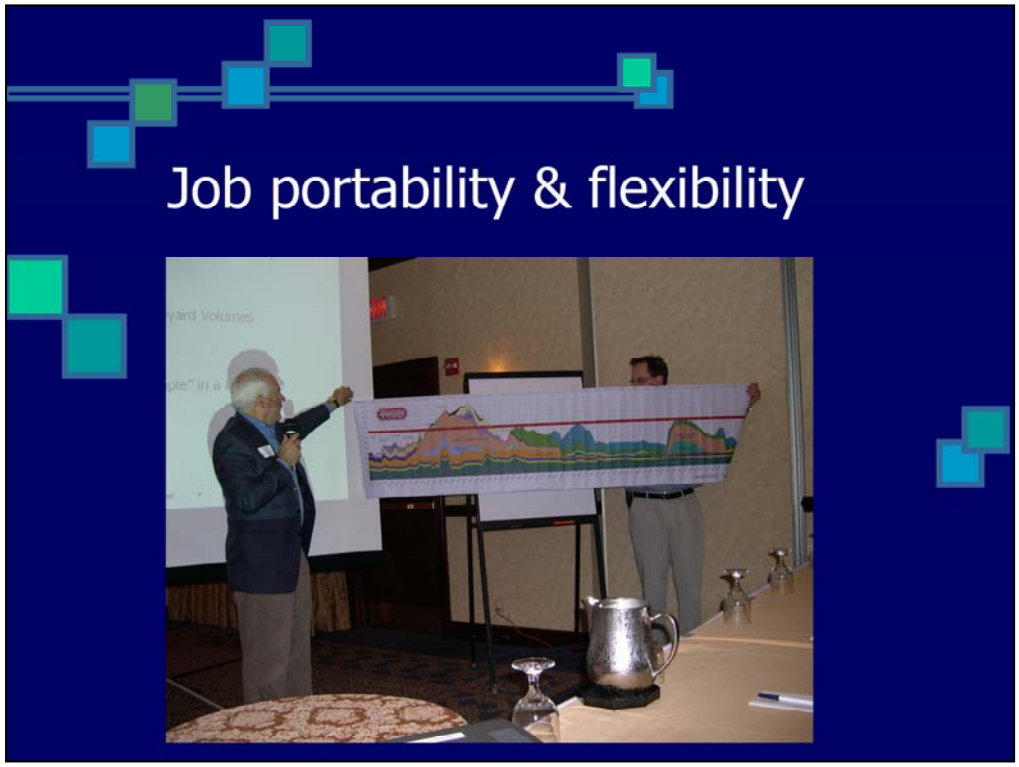


Our common need for good entry level people, and more folk interested in science, technology, engineering, and math begins in the K-12 system. Crosscut Panel advocates use of general manufacturing-oriented curriculum that helps prepare graduates with an attitude for work after high school, or to continue in STEM college courses. This high-performance manufacturing curriculum development was coordinated by the Manufacturing Skill Standards Council and McGraw Hill. The curriculum is operating in nearly all states now. The Crosscut Panel helps coordinate curriculum and resource sharing between the industry, community colleges, and participating high schools.

Crosscut studies and surveys reveal that there is a lack of common terminology in our industry. This causes confusion to prospective employees who begin to explore our industry. For example, what holds the lighting fixtures above us? Group A says the overhead, group B says ceiling. We've found several different definitions of the term 'scarfing' that apply to welding a joint, or dressing up a joint, or removing a bad weld prior to rework. NSRP produced a set of basic skill standards that address knowledge, skill, and abilities between 2000-2003 that have been reviewed and used by some shipyards but not others. We discovered that public (Navy) shipyards use trade skill designators which have substantial differences with private shipyard terminology. If we are to move to common entry level curriculum, toward job flexibility and portability, then basics such as terminology must be resolved. Our cousins in construction, aerospace and medical industries have substantially solved these entry-level issues.

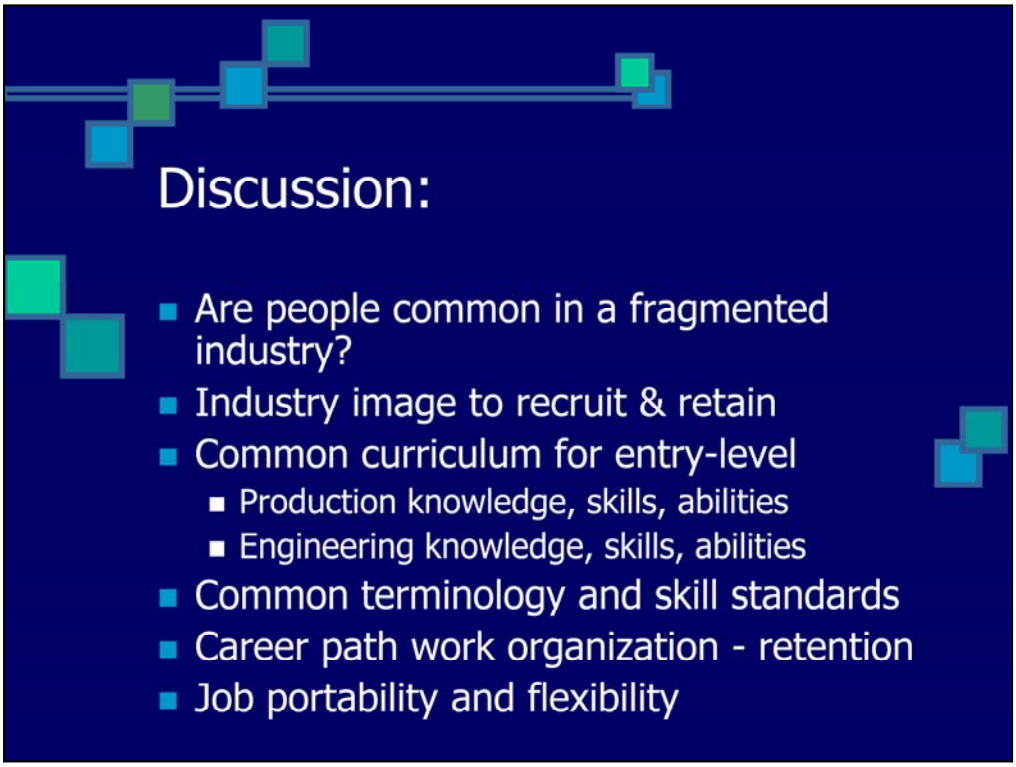


Crosscut Initiatives Panel believes that a common framework for careers is important for recruiting, training, advancement, and retention. The left block shows elements of a suggested workforce development system that begins with industry image, continues through career path development to achieve expert knowledge that feeds back into system improvements. A way that young people and job changers can comprehend a shipyard career can be symbolized simply as a 'pipeline' flow. Our industry needs career-oriented people. It takes several years to train and motivate a good shipyard technician or engineer. That person needs to know how his or her study and hard work can result in advancement and rewards.



A major problem in our industry is cyclical work. The photo shows former Todd Pacific Shipyard officials displaying their multi-year projected work. If you were an employee with a mortgage, kids in college, or saving for retirement, the prospect of periodic layoffs is generally not happy. So how to solve this dilemma. We whine to our customers to give us steady work, logical series of ships to build and repair, but realities are what the diagram shows, valleys, some predictable work, along with unexpected peaks of emergency or high-priority work.

Innovations in company relationships can allow workers to move between companies as contracts shift. There are some practical examples of success in the Gulf Coast Shipbuilding Consortium. Clearly there are issues between union and non-union companies, who covers health insurance and other benefits, however, access to trained, experienced, motivated workers can help management make things work. Biggest roadblock in this process is the lawyers.

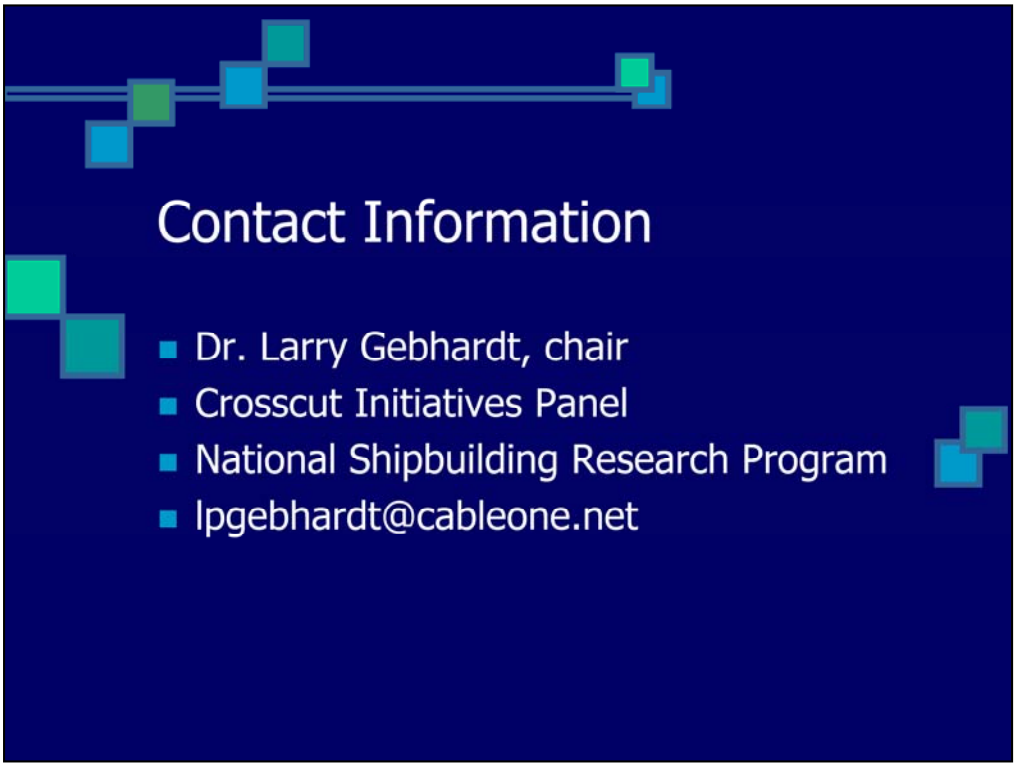


So this is the end of our prepared presentation. Now we'd like to step back through key points and get your thoughts.

Where is our thinking wrong?

How can Crosscut Panel help move our industry toward more collaboration to achieve logical commonality, particularly in the people areas?

Of the five specific commonality areas, do you have questions, suggestions, or disagreement?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No, they want you to take a look at a company involved in one of the oldest industries: gold mining.

When Rob McEwan became CEO of Goldcorp, he and company geologists knew that their property contained untapped resources "thirty times the amount Goldcorp was currently mining!"

But with 55,000 acres, nobody at Goldcorp could figure out where to look for the buried treasure. To avert a wild goose chase, McEwan shared on the Web Goldcorp's geological data going back to 1948 and offered $575,000 in prizes to those who could come up with the best way to find and extract the gold.

Participants in the contest found 55 drilling targets Goldcorp had not identified. Eighty percent hit pay dirt. "In fact, since the challenge was initiated, an astounding eight million ounces of gold have been found" and in four years Goldcorp's cost of production dropped 600%.

Tapscott and Williams say Goldcorp took advantage of a new economic paradigm they call wikinomics: a word combining economics and Wikipedia — the online encyclopedia to which anyone can contribute. This model of wealth creation is based on collaboration and sharing the authors call peering.