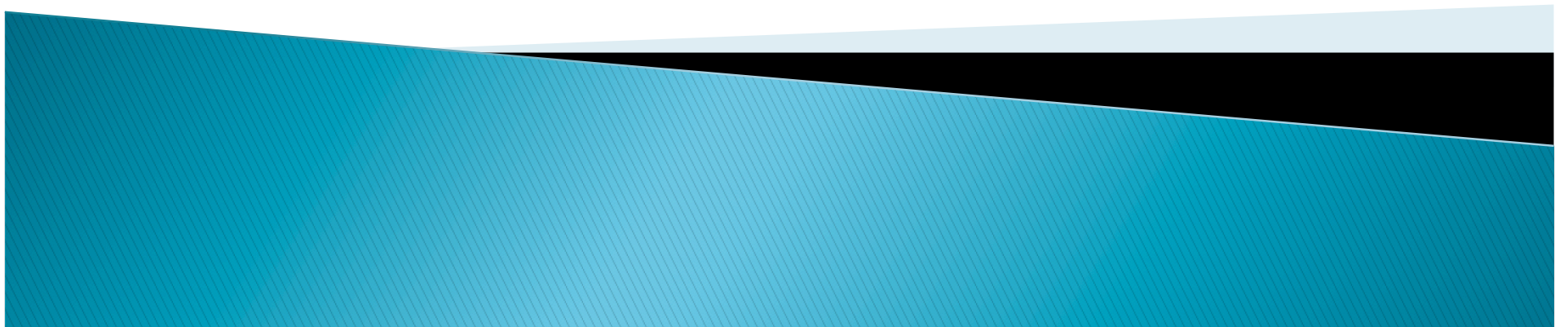


Curriculum Development
Composites Awareness
for the Aviation Safety Inspector

November 2008



Course Development Phase V

- ▶ Duration of development
 - January 2008 through September 2008
- ▶ Purpose
 - Customize prior curricula to specific needs of the aviation safety inspector (ASI)
 - Intent: Up to 3,000 personnel to be trained in composite technology
- ▶ Process highlights
 - Workshop with ASIs to modify course framework
 - Develop class materials
 - Conduct integrated classroom, laboratory prototype class for feedback and modification
 - 'DID' reports

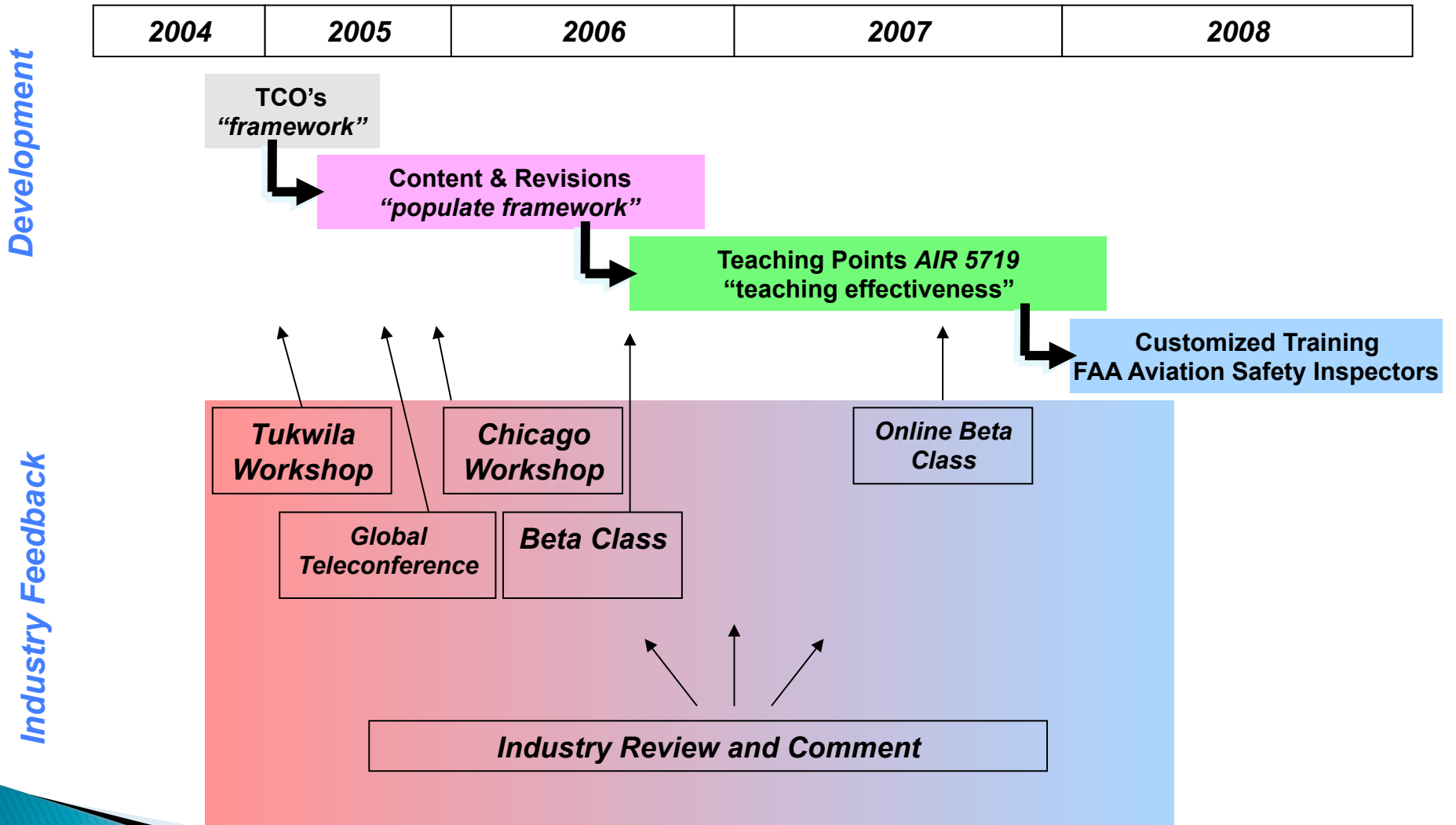


Development Outcomes (Phases I – IV) Completed December 2007

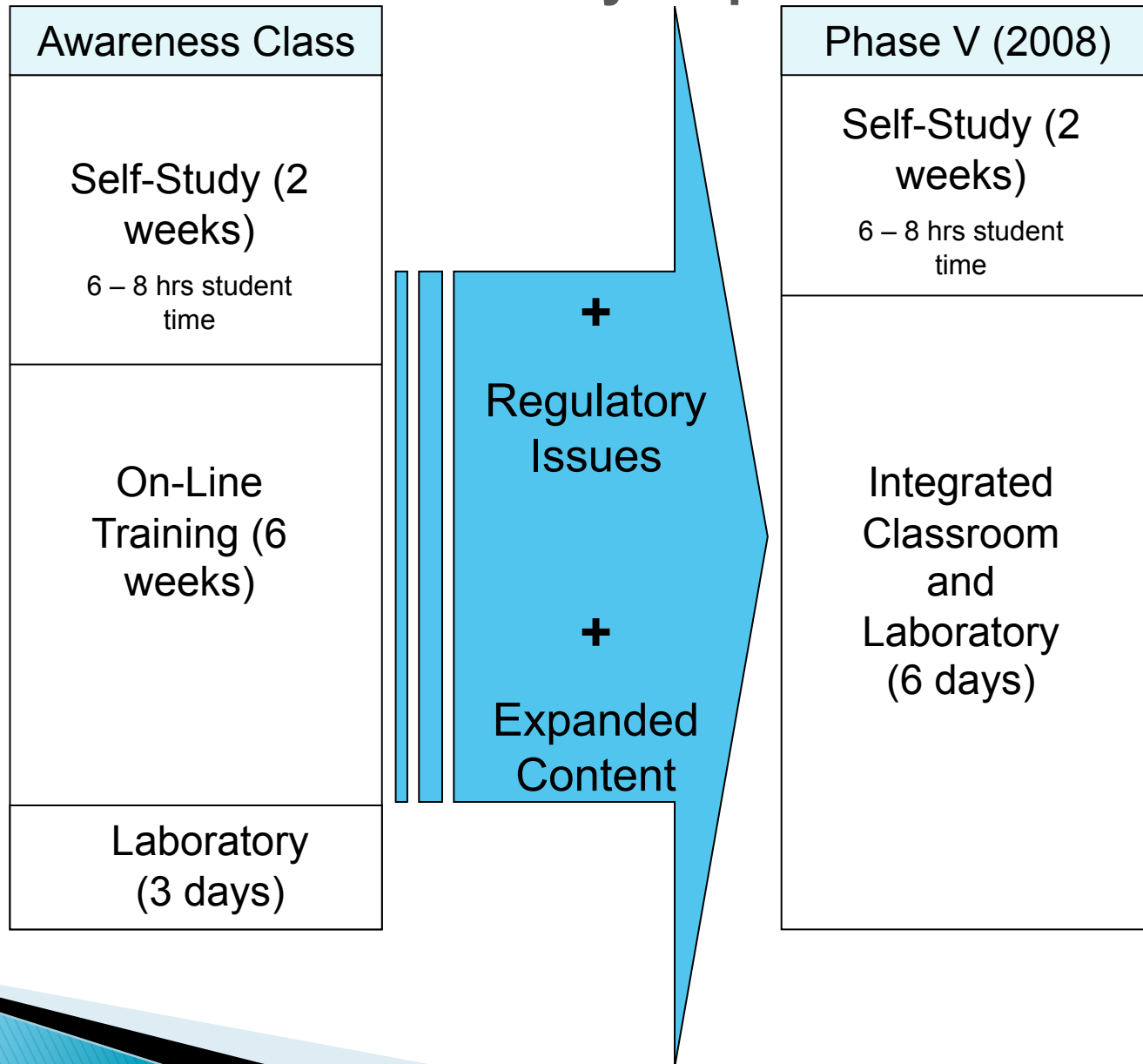
- ▶ Industry standard
 - 3 years in development by broad spectrum of experts from all facets of composites industry
- ▶ Demonstration of online training to composites' maintenance training
 - Hybrid format – self-directed study, online education, 3-day laboratory
 - Global outreach capability, cost-effective
- ▶ Technical Center reports currently under review
 - Development process and background (I – III)
 - Online training evaluation and Training Repair Manual (TRM) (Phase IV)



Composites Maintenance and Repair Curriculum Development Process



Application: Customized Course for FAA Aviation Safety Inspectors



Prototype Class

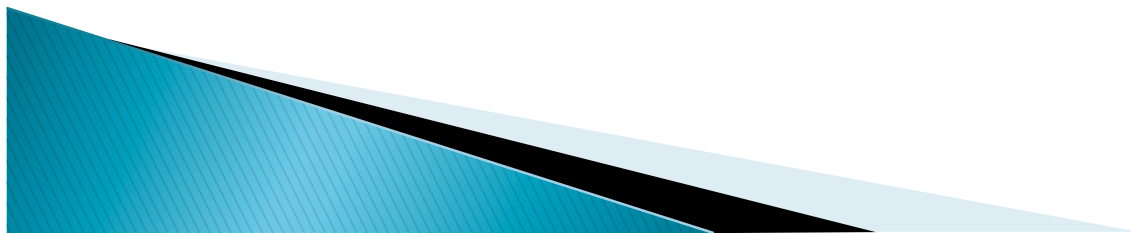
September 2008

▶ Purpose

- Assess draft course development
- Students: Seasoned aviation safety inspectors plus one engineer
- Assessors: FAA personnel

▶ Learning experience

- Students passed prerequisite exam with 90%+ average score
- 6-day class experience at Abaris, Reno, NV
- Multimedia: Delta II incident, Iowa State University automated tap hammer demonstration, pulse echo demonstration



Prototype Class

September 2008

▶ Outcomes

- Content reorganization from student and assessor feedback
- Content reduction (e.g. 400 PowerPoint slides to 230 slides)
- Test modification from true/false, matching to subjective questions, covering all enabling objectives

▶ Request for no-cost extension

- Extensive modification requires complete report modification (“Data Item Description”, or DID’s) – 5 separate reports of nearly 200 pages of instruction
- DVD provided to FSDO branch to accelerate incorporation



Multimedia

▶ Delta II incident

- Provided at beginning of class to illustrate the importance of proper handling and detection of potential damage

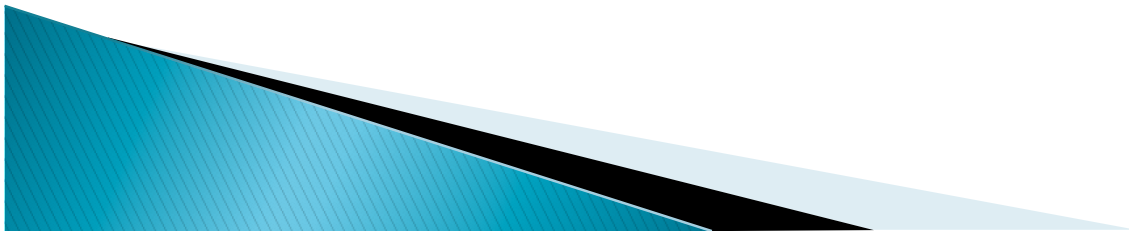
▶ Iowa State University automated tap hammer

- FAA funded research to standardize nondestructive inspection
- Modified during prototype class to provide a voice-over describing the methodology

▶ Pulse Echo demonstration

- Cooperative effort: EdCC (video compilation, organization), Abaris Technologies (facility, samples), Physical Acoustics (instrumentation, dialogue)
- Filmed in Griffen, GA

▶ Boeing/CACRC Awareness Video



Summary

- ▶ Development of a course standard
 - Estimated \$2.5 million – funding from all sources
 - Global involvement
- ▶ Adapted course standard in composites repair to specific audience (FAA ASIs)
- ▶ Potential improvements in content and course materials in course standard
 - Increased content on regulations related to composite materials
 - Multimedia
 - Improved laboratory experience

