E-Navigation Underway 2014 North America

Situational Centric Display –
Increased Information through HCD

Michael Bergmann  MBA AFNI  AFRIN
Director Maritime Industry
President  CIRM

4 April 2014
When have you last used...
Pyramid of Competency

Competence – the ability to do a job properly. It allows us to use our intelligence for doing wise decisions and react successfully based on situational awareness and is growing with experience on the job to be done.

Intelligence – The full collection of past and present knowledge, which allows us to assess new situations and guide decisions

Knowledge – all what has been detected, learned and internalized and has developed in insight and situational understanding

Information – integrated and processed data, which is useful and meaningful for the data consumer

Data – collection of facts, which may be compiled, but by themselves do not have a specific meaning or usability

©Michael Bergmann, 2012
Human Centric Approach

Keeping our humans in the center of the iterative process...
Human Centered Design
Structured User Integration - Analysis
Human Centered Design
Structured User Integration - Design
Human Centered Design
Structured User Integration - Development
Human Centered Design
Structured User Integration - Evolution
HCD ASPECTS IN DEFINING DATA GUIDELINES

- **Situational centric data filtering and selection**
  - Filter data necessary to generate information needed in a given situation
  - Select the data for display, which will help increase knowledge

- **Integration of related data points**
  - Combine related data content
  - Identify data integration parameters to allow full integration
  - Create integrated information layer

- **Information Rendering**
  - Define rendering parameters based on HCD guidelines
  - Apply rendering algorithms to display a usable HMI
Adaptive Solutions
Increasing Situational awareness
Aviation Electronic Flight Bag
Result of HCD focusing on Situational Awareness
The “App” Structure:
Different Situational Centric Solutions – Fast Switch

Electronic Flight Folder
NOTAMs shown in PoF
Display of Taxi Route

Integrated Wx & Forecasts
Text Information Available
Integrated Procedure Info.
Situational Centric Device Design:
Multiple devices for simultaneous use

Navigational Orientation

Fatigue prevention
THANK YOU!

michael.bergmann@jeppesen.com