CANEUS Structure and Role of Sector Consortia

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Presentation Overview

- What is CANEUS
- CANEUS’ New Structure
- Sector Consortia
- New Projects
CANEUS Mission

• To establish global public/private partnerships within the aerospace community by fostering a collaborative environment aimed at the adoption, adaptation, and accelerated commercialization of micro and nano technologies (MNT)
CANEUS Vision

• Through the creation of international consortia that accelerate the development and use of MNT in the aerospace industry, CANEUS will become the “Virtual World Aerospace Organization” and be recognized for its excellence in providing high return on investment for its stakeholders.
The IBM Global CEO Study 2006 found that, to drive innovation, many top CEOs are collaborating beyond their organizations – with their extended networks of suppliers, customers, business partners and others.

“Airbus collaborates with suppliers to accelerate innovation on A380 wings

In the tightly competitive aerospace industry, Airbus has found a way to accelerate innovation: by working closely with its extensive network of suppliers and other partners to develop innovative solutions collaboratively.”
Support for the CANEUS Model

Virtual organizations (VOs) are a fast-growing phenomenon in all work settings. In many different contexts, people are finding that their goals can be met only by collaborating or coordinating with others located far away.

By organizing their resources with the help of coordinated computer, information, and communication technologies and human infrastructure, scientists and engineers can work together in environments that allow scientific integration, greater access, efficient problem solving, and competitive advantage.
CANEUS Goals

1. To syndicate resources from all stakeholders and reduce the high costs and high risks associated with disruptive technologies.
2. To develop a portfolio of projects focused on meeting the current and emerging needs of stakeholders, providing an economically viable solution in so doing.
3. To create an innovation environment for stakeholders to develop MNT based solutions focused on an integrated supply chain.
4. To create a value chain that will result in rapid and efficient commercialization of new products and solutions.
5. To provide an international platform that will be conducive to advancing knowledge, innovation, training, and competitiveness.
6. To become an intelligent third-party broker of MNT for the aerospace community and a conduit for the exploitation of MNT through linkages.
7. To become a clearing-house and technology-watch for MNT worldwide.
CANEUS’ New Structure
CANEUS Organization

ADMINISTRATION LEVEL

CANEUS Board of Directors
- Legal Counsel
- Executive Director
- Steering Committee
- Finance Committee
- CANEUS Administration
- Member Assembly
- Advisory Committee/s

WORK PROGRAM LEVEL

Outreach Board
- Technology Board
  - Sector Consortia
  - Sector Consortia Projects
  - Projects
- Stake Holder Board
  - Sector Consortia
  - Sector Consortia Projects
  - Projects
- Application Board
  - Sector Consortia
  - Sector Consortia Projects
  - Projects
- Business Dept / Gov Reg Board
- Education Board

Comprised of teams that are responsible for the prosecution of high risk/high cost MNT focused development projects and initiatives defined by the membership.
CANEUS Organizational Structure

• **Steering Committee**
  – Made up of a sub-set of the BOD and appointed by the BOD
  – Responsible for preparing recommendations for BOD actions
  – Responsible for CANEUS Strategic Work Plan
    • Distil input from the committees, Member Congress and boards
  – Responsible for CANEUS Annual Work Plan
    • Distil input from the committees, Member Congress and boards
CANEUS Organizational Structure

• Finance Committee
  – Prepare budget for CANEUS Strategic Work Plan
    • Distil input from the committees, Member Congress and boards
  – Prepare budget for CANEUS Annual Work Plan
    • Distil input from the committees, Member Congress and boards
  – Assist Membership with the financial content of their Project Plans
  – Assist Membership with their Value Assessment analysis
  – Responsible for all Contracting Policy
  – Responsible for Audits of all projects and operations
  – Direct CANEUS investment strategy
CANEUS Organizational Structure

• CANEUS Administration
  – Headed by Executive Director
  – Responsible for Operations
    • CANEUS Staff
    • Contracting
    • Facilities
    • IT Infrastructure
  – Responsible for Program Management
  – Manage CANEUS Conferences
  – Manage Workshops
  – Manage regulator compliance

CANEUS.org
CANEUS Organizational Structure

- **Member Assembly**
  - Each Member belongs to the Assembly
  - Each Member has one vote in the Assembly
  - Assembly Members nominate and vote on candidates for the Board of Directors
  - Assembly Members can propose Member resolutions
  - Assembly Members ratify the Board of Directors proposed actions and appointments, CANEUS Strategic Plan, and CANEUS Annual Plan
CANEUS Organizational Structure

• Advisory Committee
  – Comprised of Individual Members or Members that can not vote due to government regulations (NASA for example)
  – Responsible for preparing recommendations for BOD actions
  – Responsible for CANEUS Strategic Work Plan recommendations
  – Responsible for CANEUS Annual Work Plan recommendations
CANEUS Organizational Structure

• Outreach Board
  – Headed by a Chairman appointed by the BOD and populated with Project Managers (from each project established by the Board)
  – Manage interaction with other conferences
  – Manage relationships with other Industry Associations
  – Manage relationship with Industry Standards organizations
  – Manage CANEUS advertising and promotion
  – Manage CANEUS web site content
  – Manage Membership recruitment
  – Directs the Membership Relationship Management
  – Interface with other consortia and project team
CANEUS Organizational Structure

• Technology Board
  – Headed by a Chairman appointed by the BOD and populated with Sector Consortia Directors and Project Managers (from each project established by the Board)
  – Responsible for the definition and project management of all cross cutting Technology based Projects (MNT integrated sensors for example)
  – Establish Technology based Sector Consortia (Harsh Environment Sector Consortia for example)
  – Prepare CANEUS Strategic and Annual Work Plan input for the Steering Committee
  – Collaborate with the Application and Stake Holder Boards for Project Plans
CANEUS Organizational Structure
Technology Board Realm of Responsibility

- Materials
- Electronics
- Controls
- Sensors
- Power
- Optics
- Fluid
- Processes
- Quality Systems
CANEUS Organizational Structure

- **Stake Holder Board**
  - Headed by a Chairman appointed by the BOD and populated with Sector Consortia Directors and Project Managers (from each project established by the Board)
  - Responsible for the definition and project management of all Stake Holder based Projects (nano composite airframe testing – systems integrators for example)
  - Establish Stake Holder based Sector Consortia (Reliability Sector Consortia – Component Suppliers for example)
  - Prepare CANEUS Strategic and Annual Work Plan input for the Steering Committee
  - Collaborate with the Application and Technical Boards for Project Plans
CANEUS Organizational Structure

Stake Holder Board Realm of Responsibility

- End Users
- Systems Integrators
- Component Suppliers
- Agencies
- Academia
- Process Suppliers
CANEUS Organizational Structure

• Application Board
  – Headed by a Chairman appointed by the BOD and populated with Sector Consortia Directors and Project Managers (from each project established by the Board)
  – Responsible for the definition and project management of all Application based Projects (engine health monitoring for example)
  – Establish Application based Sector Consortia (Wireless Sector Consortia for example)
  – Prepare CANEUS Strategic and Annual Work Plan input for the Steering Committee
  – Collaborate with the Stake Holder and Technical Boards for Project Plans
CANEUS Organizational Structure

Application Board Realm of Responsibility

- Aircraft
  - Fixed Wing
    - Air Frame
    - Fight controls
    - Avionics
    - Propulsion
    - Accessories
  - Rotary Wing
    - Air Frame
    - Fight controls
    - Avionics
    - Propulsion
    - Accessories
- Space
  - Payload
    - Satellites
    - Manned Vehicles
    - Cargo
  - Launch Vehicle
  - Ground Support
CANEUS Organizational Structure

• **Business Development Board**
  - Headed by a Chairman appointed by the BOD and populated with Project Managers (from each project established by the Board)
  - Support development of Project business cases
  - Provide Member business evaluation services
  - Provide IP valuation services
  - Provide IP brokering services
  - Develop CANEUS Investment Fund
  - Manage new business start-up process
  - Manage syndicated investment funding for Member Projects
  - Establish innovation process policies and procedures
  - Infuse innovation best practices into Project development
CANEUS Organizational Structure

• Education Board
  – Headed by a Chairman appointed by the BOD
  – Establish an Academic global network of MNT capabilities related to the Aerospace market
  – Establish a curriculum of MNT courses that support Aerospace applications
  – Establish a global web portal of Academic capabilities for Aerospace applications and related technologies
  – Develop a harmonized Tech Transfer policy for spinoff IP
  – Establish a global student web portal for Aerospace related opportunities
Sector Consortia
Initiating a Sector Consortium

An Aerospace constituent proposes a **Project Concept** that describes a:

– process development or;
– product development or;
– initiative (such as developing standards or creating a web portal for example) or;
– broad program of initiatives and developments (to initiate a **sector consortium**).
CANEUS Sector Consortia

• Background
  – Some Project Concepts are so far reaching they require a broad program of initiatives, developments and Industry coordination.
  – When such a Project Concept is proposed and accepted by any one of the 3 development related Work Program Boards (Technology, Stake Holder, Application,) a Sector Consortia is created.
  – A Sector Consortia establishes a Sector Consortia Work Program that defines Project teams and interactions with the other Work Program Boards to provide the broad program of initiatives, developments and Industry coordination defined by the CANEUS Members
CANEUS Sector Consortia

• **Background (cont.)**
  – Headed by a Director appointed by the sponsoring Work Program Board Chairman and populated with Project Managers (from each project established by the Sector Consortia)
  – The Sector Consortia is responsible for a Strategic Work Plan and Annual Work Plan. These Plans become integral to the Work Program Board Plans which are comprise the CANEUS Strategic Work Plan and CANEUS Annual Work Plan
CANEUS Sector Consortia

• **Background** (cont.)
  – The Sector Consortia Strategic Work Plan includes:
    1. The purpose (mission statement)
    2. The goals the Sector Consortia must reach to accomplish the mission
    3. Identify specific approaches or strategies that must be implemented to reach each goal
    4. Identify specific action plans to implement each strategy (consistent with Annual Work Plan)
    5. Identify the Sector Consortia requirements to be provided by the other Work Program Boards and identify the support the Sector Consortia will provide to the other Boards

  – The Director is able to establish any necessary committees the Sector feels is needed to implement the Work Program of the Sector
CANEUS Sector Consortia

• **Background** (cont.)
  - The Sector Consortia is established after a number of Industry workshops have been held to gather input from interested CANEUS members and other Aerospace businesses.
  - The input is used to develop a Strategic Work Plan for the Group. First, a Sector Consortia Director is appointed from the membership and then the interested parties come together to create the Strategic Work Plan. Once the Plan is established, the non-members of the group join CANEUS and become members.
  - Once all interested parties are members of CANEUS (and therefore covered by the terms of confidentiality, intellectual property management and regulatory policies) the group is then responsible for defining the Projects and Initiatives necessary to implement the Strategic Work Plan.
Sector Consortia’s Role in Structure

WORK PROGRAM LEVEL

Outreach Board
- Technology Board
  - Sector Consortia
    - Projects
  - Sector Consortia Projects
  - Projects
- Stake Holder Board
  - Sector Consortia
    - Projects
  - Sector Consortia Projects
  - Projects
- Application Board
  - Sector Consortia
    - Projects
  - Sector Consortia Projects
  - Projects
- Business Dev’t / Gov Reg Board
- Education Board

Comprised of Teams that are responsible for the prosecution of high risk / high cost MNT focused development projects and initiatives defined by the membership.
Work Program Boards Function

Mitigate Risk, Mitigate Cost, Bridge Valley Of Death

Leverage
- MNT Impacted Technologies
- MNT Embedded Applications
- MNT Stake Holders form the supply chain

... the ideal project is a collaboration of members that provides a solution for a number of aerospace applications, involving a portfolio of technology development provided by a supply chain made up of stake holders with the resources to create and support the resulting MNT product or process in the market place.
Work Program Board

Segmentation

Technology (MNT impacted)
- Materials
- Electronics
- Controls
- Sensors
- Power
- Optics
- Fluid
- Processes
- Quality Systems

Stake Holders (MNT capable)
- End Users
- Systems Integrators
- Component Suppliers
- Agencies
- Academia
- Process Suppliers

Applications (MNT embedded appl.)

- Aircraft
  - Fixed Wing
    - Air Frame
    - Fight controls
    - Avionics
    - Propulsion
    - Accessories
  - Rotary Wing
    - Air Frame
    - Fight controls
    - Avionics
    - Propulsion
    - Accessories

- Space
  - Payload
    - Satellites
    - Manned Vehicles
    - Cargo
  - Launch Vehicle
  - Ground Support
CANEUS Sector Consortia

New Start-Up CANEUS Sector Consortia

Sector Consortia
- NanoComposite Materials
- Harsh Environment Sensors
- Reliability Testing

Sector Consortia
- BioAstra
- Fly-by-Wireless

Sector Consortia
- Nano Pico Satellites
- Micro-Energetics
New Projects
CANEUS Projects

• Anyone in the Aerospace Community can propose a project concept

• For **non-member** Project Concepts:
  – A Request for Concept (RFC) including proposal guidelines will be solicited *once each year* however, unsolicited concept proposal will be accepted at any time as long as the guidelines on the web site are followed.
CANEUS Projects (cont.)

- For **non-member** Project Concepts:
  - Concept Proposals can be submitted online or sent to the Executive Director of CANEUS
  - The Concept Proposal will be sent to the Chairman of the appropriate Work Program Board (depending on the area of interest designated in the proposal)
  - The Chairman of the selected Work Program Board (WPB) will distribute a copy of the proposal to the WPB Board’s Sector Consortia Director/s or and to the WPB Board’s Project Manager/s
CANEUS Projects (cont.)

• For *non-member* Project Concepts:
  – If the Sector Consortia Director or the WPB Project manager needs the project or the WPB Chairman wants to start a new Project, the proposer of the concept will be contacted by the CANEUS Executive Director and invited to become a member of CANEUS. Once the proposer is a member, a Project Proposal will be developed in collaboration with Board
CANEUS Projects (cont.)

• For *member* Project Concepts:
  – A member’s Concept Proposal in most likely responsive to the established scope of work of the Sector Consortia in which the member is involved and therefore will be submitted to the Sector Consortia Director
  – If the scope of work of the member’s Concept Proposal does not fit the member’s existing affiliated CANEUS Project activities, the proposal can be sent to the Executive Director of CANEUS
CANEUS Projects (cont.)

• For *member* Project Concepts:
  – The Concept Proposal sent to the Executive Director of CANEUS will be forwarded to the Chairman of the appropriate Work Program Board (depending on the focus area designated in the proposal – technology, application, or stakeholder)
  – The Chairman of the selected Work Program Board (WPB) will distribute a copy of the proposal to the WPB Board’s Sector Consortia Director/s or and to the WPB Board’s Project Manager/s
CANEUS Projects (cont.)

• For **member** Project Concepts:
  – If the Sector Consortia Director or the WPB Project manager needs the project or the WPB Chairman wants to start a new Project, the member will be contacted by that Chairman and invited to become a team member that group. A Project Proposal will be developed in collaboration with interested team.
Background