

A Practical Model for Evolutionary Computation Market Introduction

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Workshop on Future Directions in Evolutionary Computation
2005 IEEE Congress on Evolutionary Computation

Workshop Topics

- Conditions / Assumptions
- Challenges
- New Technology Introduction
- Model
 - Objectives
 - Issues
 - Key Components
- Actions

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Conditions / Assumptions

- EC solution usually in the form of software
- High-tech sectors usually includes several smaller domains
- Applicable domain expertise is critical to compete in semiconductors and other high-tech industries

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Joint Academia-Business Challenges

- Making the introduction of EC tools economically feasible
- Timing, market, and resources
- Intellectual property (IP) ownership / assignment
- Finding ways for academia and business and to work effectively together on these issues

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New Technology Introduction: Tasks (Leaders)

- New Technology Validation (academia)
 - Lead work to show which techniques and tools are ready for implementation
- Solution Development (business)
 - Embed new technologies into marketable product and service solutions
- Market / Domain Penetration (business)
 - Convert marketable solutions into sales and returns on the investment in validating technology and developing solution

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New Technology Introduction: Solution Development and Domain Penetration

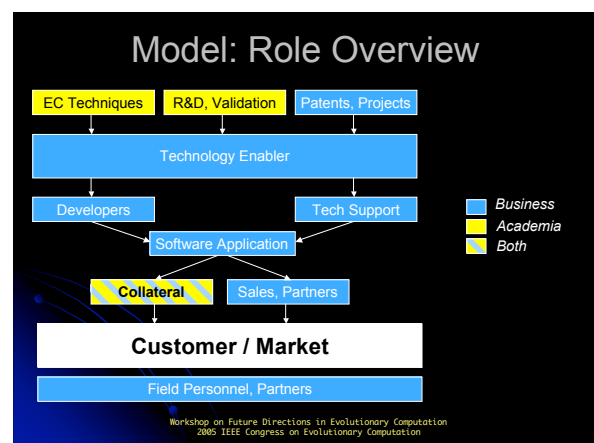
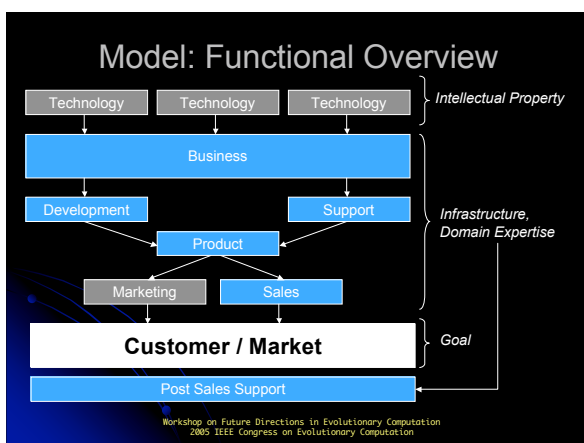
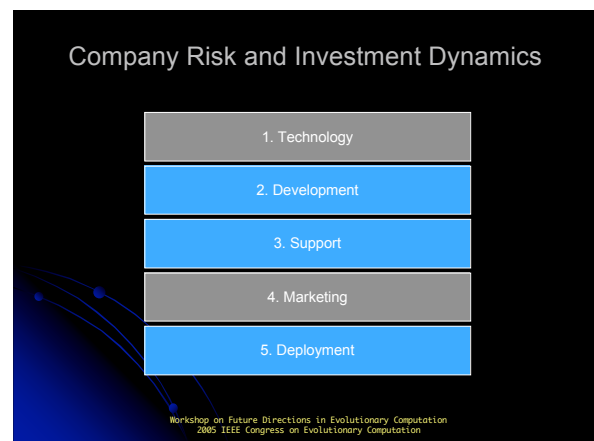
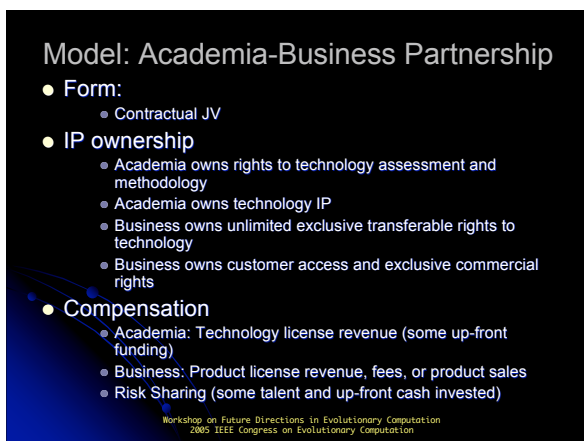
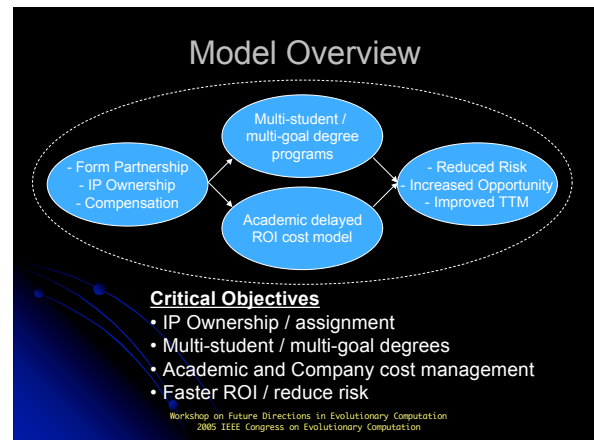
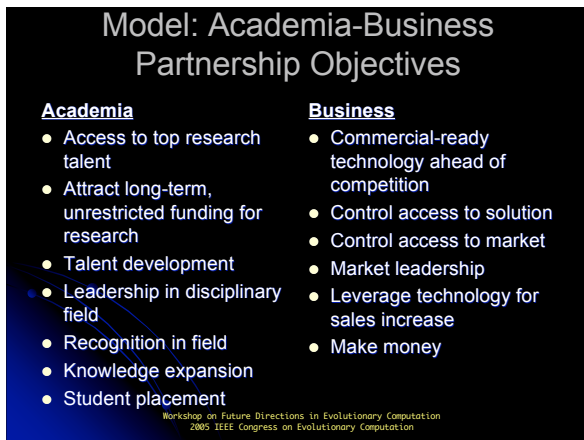
SOLUTION DEVELOPMENT

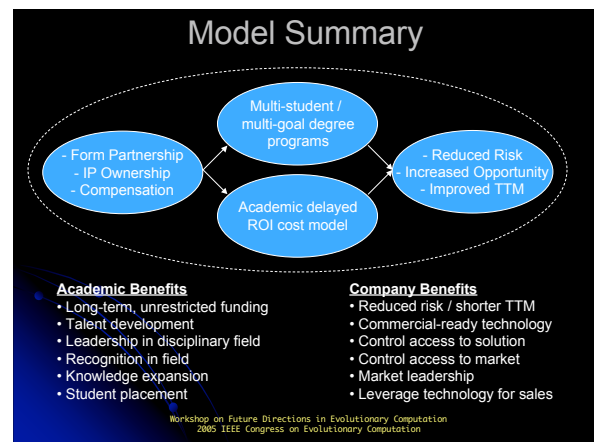
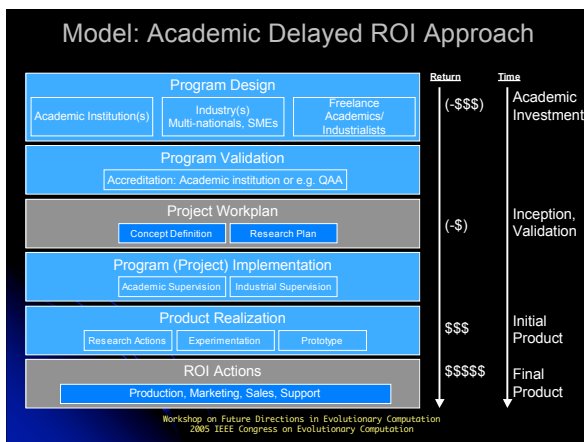
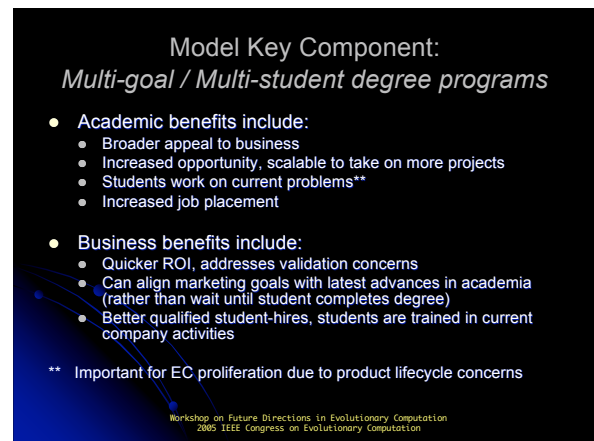
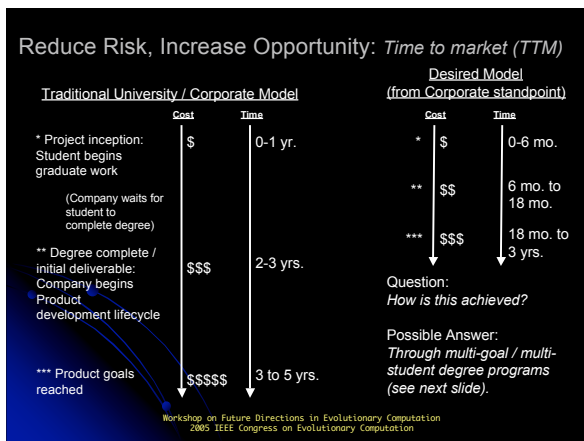
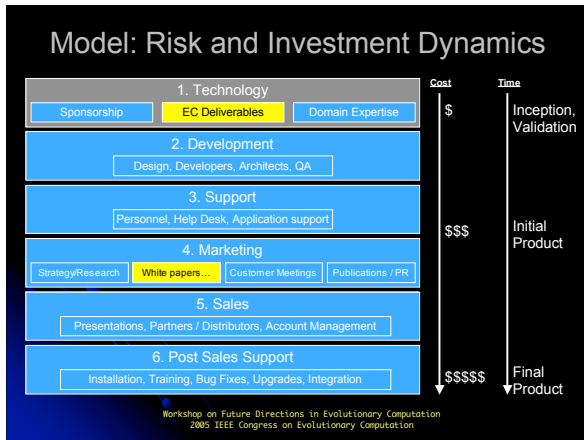
- Development
 - Architecture
 - Programming
- Product Management
 - Sales and marketing support
 - Product management
 - Product economics
- Product Support
 - Documentation
 - Quality control

DOMAIN PENETRATION

- Sales and Marketing in Relevant Industry Domain
 - Market penetration
 - Account management
- Product Development
 - Domain and customer specifications
 - Market readiness criteria
- Customer Service
 - Factory support
 - Field support

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Actions 1

Identify workshop members / volunteers

- a) Academic benefits
 - i. New program development
 - ii. New partnerships
 - iii. Recognition
 - iv. Financial returns
- b) Business benefits
 - i. Gain competitive advantage
 - ii. Industry recognition / leader in field
 - iii. Financial returns

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Actions 2

Develop a white paper on multi-student / multi-project degrees

- a) Outline design of such a program
- b) Review and impact on model (current examples, constraints, issues / benefits)
- c) Study of availability and feasibility

Incubator partnership for testing and refining model

- a) Define how to fund research and development until sales cycle catches up.
- b) Define how to convert intellectual capital generated through research into business.
- c) Outline traits of academia-business relationship
- d) Identify the academic "champions" driving these partnerships.

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