Integrated Product Teams (IPT) or Integrated Product Development (IPD)

An IPT/IPD is a team created to focus on and be responsible for the development of a specific product. It consists of personnel with various skills and from multiple departments including system, software, and test engineering. The team has a definitive formation and termination date; personnel assigned to the team later often have difficulty since the team has bonded and learned how to work together. The acquisition and user organizations are actively involved in the product development including inspections, prototype demonstrations as well as both the high level and detailed design reviews. Subcontractors may be included as well as the customer; the environment is "badgeless", that is, it does not matter to what company the members are employed. Everyone uses the same methodology, tools, processes, and procedures. An example of IPD is the **E**arth Observing System Data Information System (EOSDIS) **C**ore **S**ystem Program (ECS).

Objective	ECS Approach	Advantages
Integrate Development Team	• Companies include: Hughes, Loral, EDS, ARC, NYMA, EOSL • Work in one facility, use a common set of processes, methodologies, and tools • Encourage single team mindset (all hands meetings, social events)	• Enhances total system maintainability • Each team member offers different areas of expertise, use them where most effective • Avoid traditional multi-level responsibility (sub to prime, prime to acquisition org)
Integrate Customer	• ECS development team, GSFC, science community at various Universities • Place project liaisons at user locations • Electronic Data Handling System (EDHS) to make project data available electronically (WWW) • Joint Application Development (JAD) • Tele & video conferencing • Customer rep on risk mgmt panel & SEPG	• Facilitate early identification of potential problems and offer solutions • No surprises • Reduce customer review time • Reduce customer problem/discrepancy reports • Customer/user shares in risk mgmt • Customer/user participates in training (learns OO, inspection process, etc. for better review)
Product Focus	• ECS decomposed into 5 releases, flight ops, science data processing, and infrastructure • 3 product teams in place for the first three releases • 1 team for multi-relational support (environment, COTS, processes & procedures)	• Break system into pieces, defer ambiguous requirements to later releases • IPT focus on deliverable product • More frequent, less formal reviews • All eng disciplines participate in all development phases