

DOSSIER DE CANDIDATURE MECHATRONICS AWARDS 2010

◆ 1^{ère} partie : **VOUS**

Nom de la société : CADCAM Design Centar d.o.o.

Adresse : Kraljeviceva 3, 10000 Zagreb, Croatia.....

Contact : Mr. Zlatko Simunec

Tél et email du contact : zlatkos@cadcam.hr.....

Votre CA 2009 : 1,2M

Nombre total de salariés (précisez aussi ceux affectés à l'activité BE) : 25

Secteur principal d'activité : Mechatronic consultancy and software development

◆ 2^{ème} partie : **VOTRE PROJET / PRODUIT MECATRONIQUE**

Votre /vos catégories :

Produit / système industriel mécatronique, logiciel de conception

Produit mécatronique grand public

Produit mécatronique automobile

Marketing/communication mécatronique

Organisation et culture mécatronique, performance économique, stratégie d'entreprise

Nom de votre projet : MECODES, Mechatronic collaboration solution

Résumé du projet (500 caractères maximum)

Today Mechatronic PLM solutions need new software applications and new standards in order to give development companies better and more efficient tools in multidomain collaboration. Based on our PLM knowledge in implementation of CATIA as MCAD and ALTIUM Designer as an ECAD solution, we developed a new software application called MECODES – Mechatronic collaboration design solution for CATIA and ALTIUM integration.

Durée de réalisation (ex : 6 mois, 1 an, 3 ans...) : **8 months**

Date de finalisation du projet (date ou indiquer « prototype en cours de développement ») : **27.04.2010**

Nombre de personnes impliquées (y compris embauche, partenariat extérieur...) : **8**

Secteur d'activité du projet concerné (ex : automobile, agroalimentaire, mécanique...) : **Automotive, High-Tech, Medical Equipment, Consumer Goods,**

Décrivez le projet en mettant en avant une des catégories de sélection citées en introduction (4000 caractères maximum. Possibilité de joindre en complément des photos, des dossiers techniques, des revues de presse)

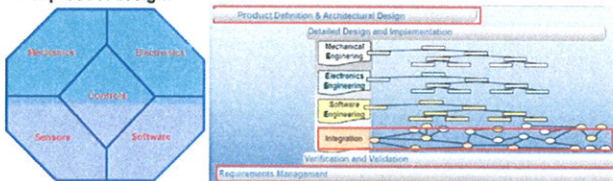
Our software application tool are developed for complex Mechatronic PLM process and unify ECAD & MCAD worlds. Today the industry is looking for new solutions that are able to give them a better environment in order to combine multidomain based design. Therefore the knowledge of designers in multidomain projects needs to be unified. That means we have to develop tools which can help MCAD designers to have as much as possible ECAD information and vice versa. We have to have a unified Mechatronic data model and a database which can handle all PLM processes in a complex Mechatronic PLM design.

MeCoDes for Mechatronics

MeCOJes

Major challenge were addressed

- to integrate the lifecycles of these different domains
- to obtain an integrated collaboration and communication to manage the dynamics of changes across these domains
- to provide an integrated System preventing delays and increased cost of the final product design.

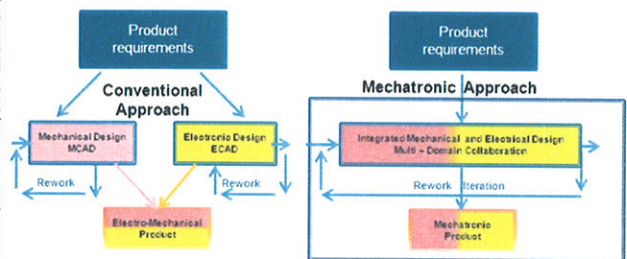


In long terms, Mecodes will enable to integrate the synergistic combination of mechanical engineering, electronic controls and systems engineering in the collaborative design of products and processes

Mechatronic design

MeCOJes

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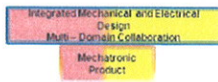
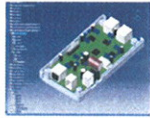
CAD/CAM

CAD/CAM

Mecodes combine software application, methodology and unify knowledge of ECAD engineers and MCAD engineers. We define also unique mechatronic library management and the results at the end of the process is Mechatronic BOM. In our data-model we develop Mechatronic Repository for multi-domain collaboration and Mechatronic Engineering change. In that repository is stored all data which is necessary for all domain collaboration, from ECAD data and MCAD geometry of the developed product, all attributes and components, all links and objects, and communication between all project member.

Working Principles of Mecodes

- Integration of Altium Designer with CATIA V5
 - Track of each process step in a separate project specific revision tracking system
 - Integrated library – ECAD/MCAD catalog

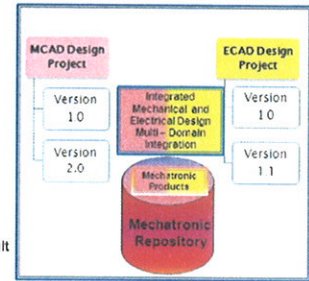


- **Communication**
 - Workspace enhanced with messaging environment
- **Model exchange**
 - Standard model exchange protocols (IDF, Netlist, XML) will be complemented by EDMD
 - IDF: component data; Netlist: electrical data and information; XML: customized attributes
- **Mechatronic collaboration**
 - Common BOM – Mechatronic BOM (MCAD BOM+ECAD data+LEGACY data)
 - Synchronization of ECAD/MCAD design

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Managing of product data in Mecodes

- Extracting Data from vendor specific data bases in respect of MCAD & ECAD building a Mechatronic repository in Mecodes
- Integrated and project oriented Repository/PDM system with version/revision capabilities
- Project check-in/check-out functions
- Repository with DM capabilities
- Each domain (ECAD or MCAD or other) has access to its own project repository and common exchange repository
- Domain processes are determined by logic specifics of the last version/revision
- Project and process based document vault
- Management of multiple revisions (project documents, exchange documents)



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MECODES solution process enable that MCAD engineer have more electrical data in front of him, on his MCAD CATIA tool and on his environment. That means, MCAD engineer can speed up their process, because they have more information about complete project, and can make quicker development process. If they need any data from ECAD world he can easy upload work from his ECAD college or ask him for any informations. The same is for ECAD engineer, we give him from MCAD world as much as possible 3D information in his ECAD environment to speed up his process and make him development time shorter.

Cross domain features of Mecodes

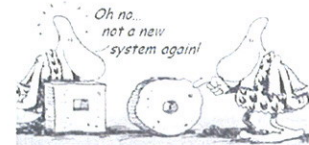
- **Synchronization of design processes**
 - Guided synchronization process
 - MCAD – ECAD (PCB + SCH)
- **Electrical data in Mechanical Design & Vice Versa**
 - Electrical design data are integrated in MCAD 3 D Model
 - MCAD data in ECAD – place & route keep-out area
- **Workspace enhanced by messaging**
 - Asynchronies messaging system
- **PIN swap**
 - allows electric pin exchange in MCAD system
- **Footprint change**
 - Changes of component footprints in MCAD
- **Electrical attributes in MCAD**
 - View of important electrical information in MCAD
- **Mechatronic BOM**
 - generates complete BOM with mechanical and electrical components and parts



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Benefits of an effective PLM Environment for Mechatronics provided by Mecodes

- **Multi CAD, PDM and PLM integration**
 - Effective protocol and exchange methods
- **Reduction in prototyping expenses**
 - Integrated prototyping and system simulation
- **Increased productivity and quality**
 - Better communication.
 - Faster collaboration.
 - Common Integration.
 - Less rework
- **Higher profitability**
 - Faster and lower-risk development
 - Lower-cost development
 - Early stage engineering changes
- **Efficient Development**
 - Simultaneous engineering across domains



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At the end we establish very close cooperation between ECAD and MCAD engineers or any persons in development process, which cause quick reactions on engineering changes, simultaneously engineering cross domains and very fast lower risk development.