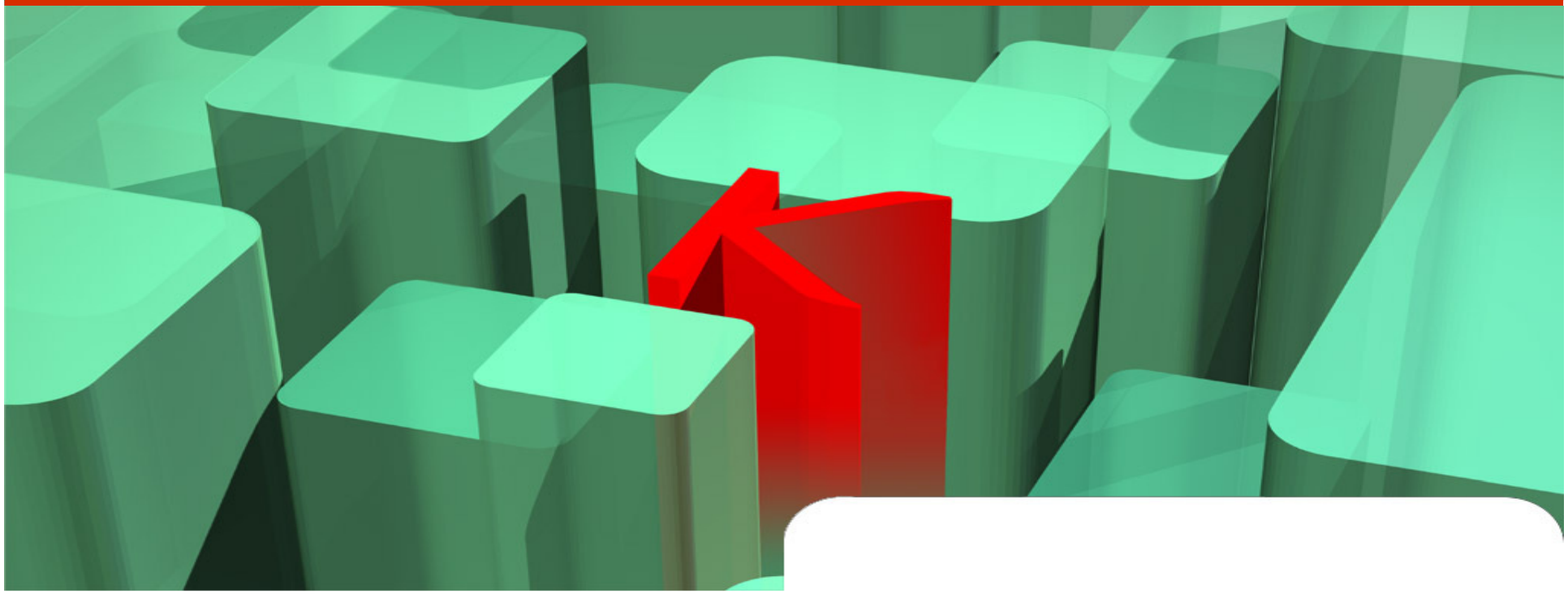
KINEO



Le génie du mouvement

making IT move

A Technology based company

IEEE

Robotics & Automation Society

IFR International Federation of Robotics

The Joint IEEE-IFR

Innovation and Entrepreneurship Award

in

Robotics and Automation

Presented to

Kineo C.A.M.

For achieving the 3rd place in commercializing innovative robot and automation technology

IEEE RAS IAB Chair — Sukhan Lee

IFR Chair — Paul Johnston

April 20, 2005

- Spin-off from L.A.A.S./C.N.R.S.
National Center for Scientific Research

- 2000, Winner of the national contest of innovation from French Ministry of Research and Technology

- 2005, IEEE International Federation of Robotics award as the 3rd worldwide innovative application of the year

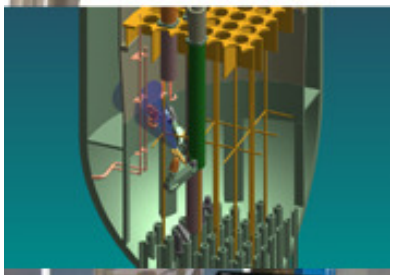
- 2007, winner Innovation ICT Prize from the European Commission and the European Council of Applied Sciences, Technologies & Engineering

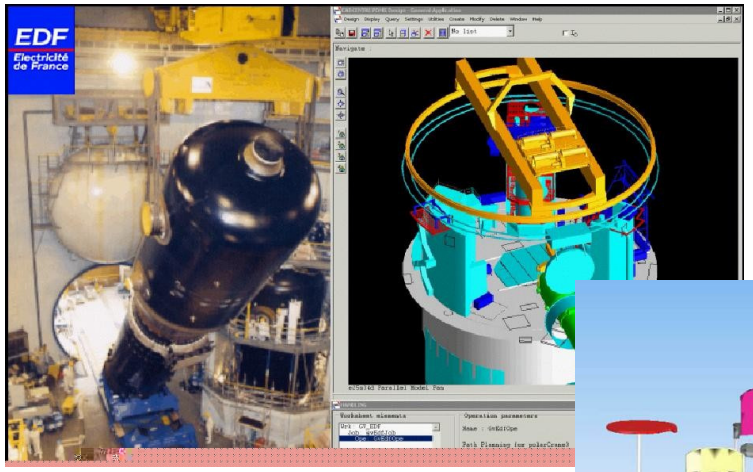
KINEO

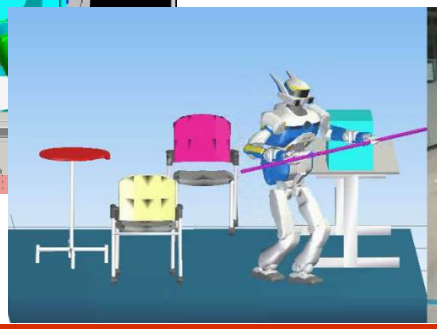
Over 100 Global Customers in 25 Countries

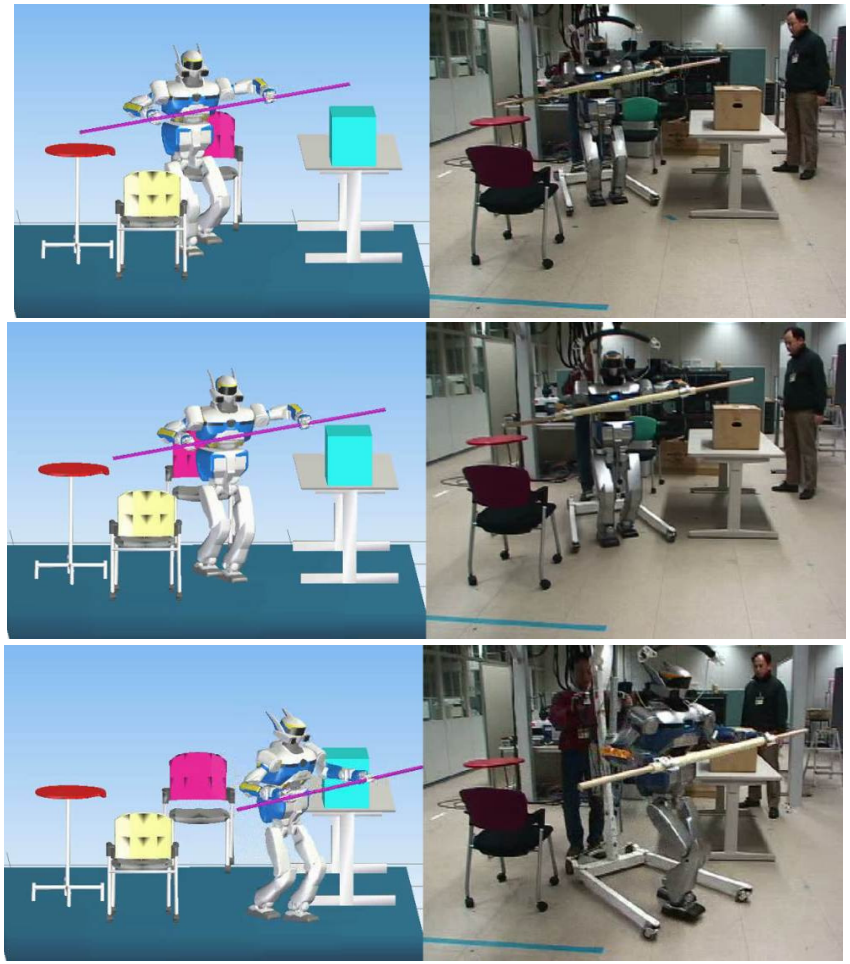
Offer / Expertise

- Software tools for:
  - Automatic motion and path planning
  - Collision detection, avoidance
  - Accessibility, Maintainability, Mounting-Dismounting simulations based on Digital Mock-up
  - Robot simulations









Picture courtesy of AIST／JRL

Kite LAB
BY KINEO COMPUTER AIDED MOTION

Kite Lab™ is a software development platform dedicated to **Research Labs** for 3D applications and 3D robotics.

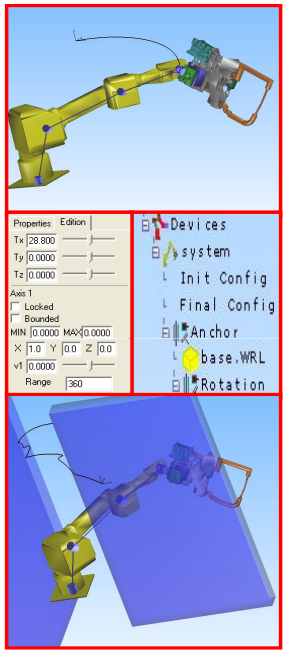
Kite Lab™ allows **Academic** and **Non Profit Organizations** to develop research works through standard Application Programming Interfaces (API). It covers a large range of uses like robot arm, medical robots or highly articulated systems.

CNRS LAAS

National Institute of Advanced Industrial Science and Technology
AIST
Japan Robotic Laboratory

DLR

- ✓ *3D engine*
- ✓ *Graphical kinematics editor*
- ✓ *Static and dynamic clash detections*
- ✓ *Automated collision-free path computation*
- ✓ *Obstacle penetration control*
- ✓ *Path optimization*
- ✓ *Zoom, pan, rotate, multi views,...*
- ✓ *3D simulation and movie generation*
- ✓ *Post treatment thanks to XML format*



Kite LAB
BY KINEO COMPUTER AIDED MOTION

Create your open and closed kinematic chains …

Check, control & avoid collisions…

Develop robotic simulation & control environment…

Share your problems & results as you wish

Using Kite Lab™ means **being part of a community of Labs**. You are encouraged to ask questions and share results to the Kite Lab Friends' community. **To apply**:

www.kineocam.com/kitelab

Offer / Expertise

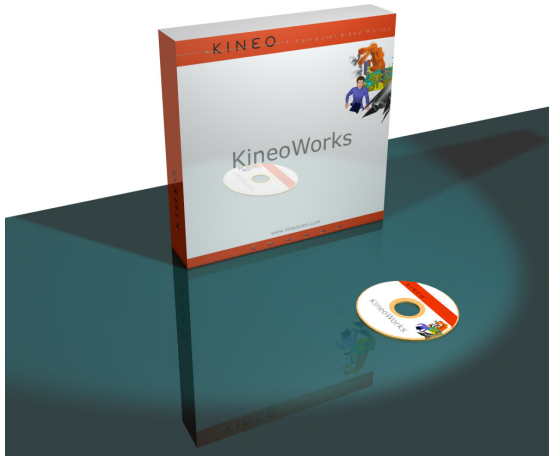
Off-the-self Software libraries

KineoWorks™: Automatic path planning SDK

KCD™ : High performance collision checker software library

KWS-Wrapping™: computes the external skin of a 3D assembly (static and in motion)

KWS-UAF™: Interactive path planning SDK



Kite Development

Kite Development Studio™

Kite runtimes

Development → *Deployment*

Your software architecture:

Your add-on
+
Your executable
+
Kite libraries

Or

Kite executable
+
Kite libraries

Examples of commercial integrations

- **Siemens PLM**
  Teamcenter
  Visualization

  VisMockup Path
  Planning

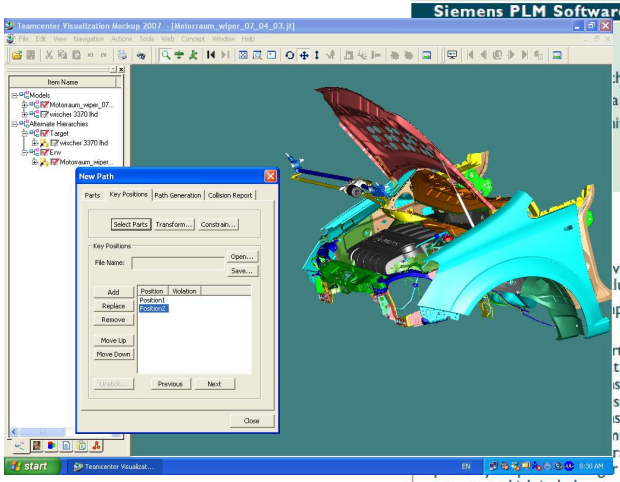
- **Siemens PLM**
  Teamcenter
  Visualization

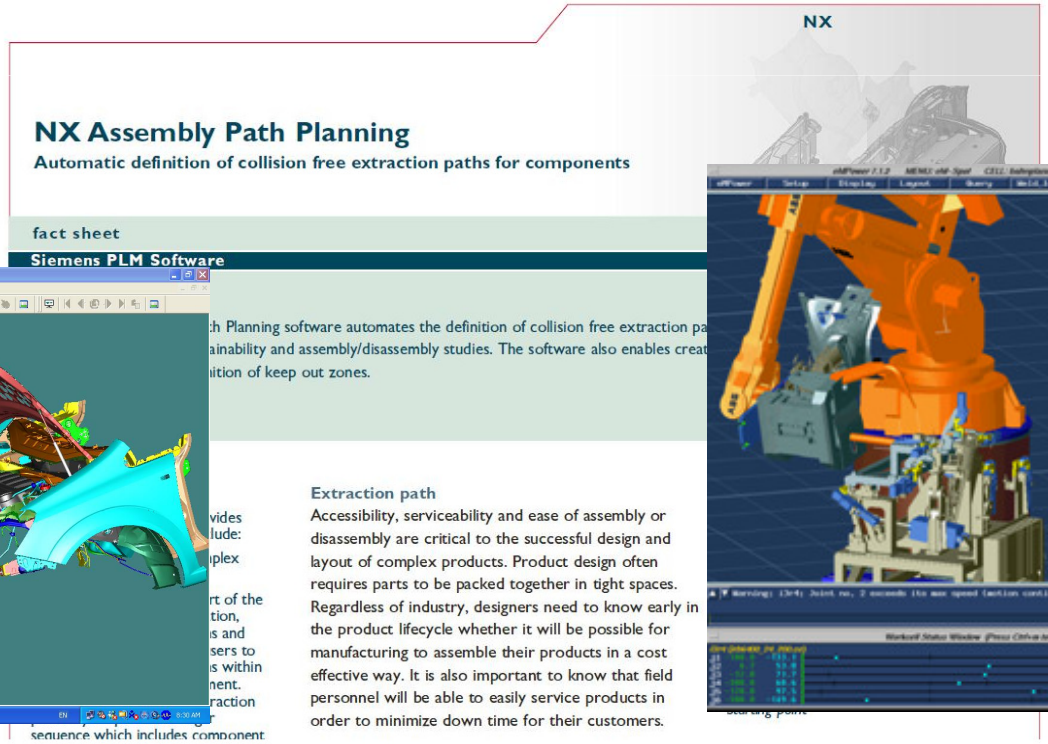
  VisMockup

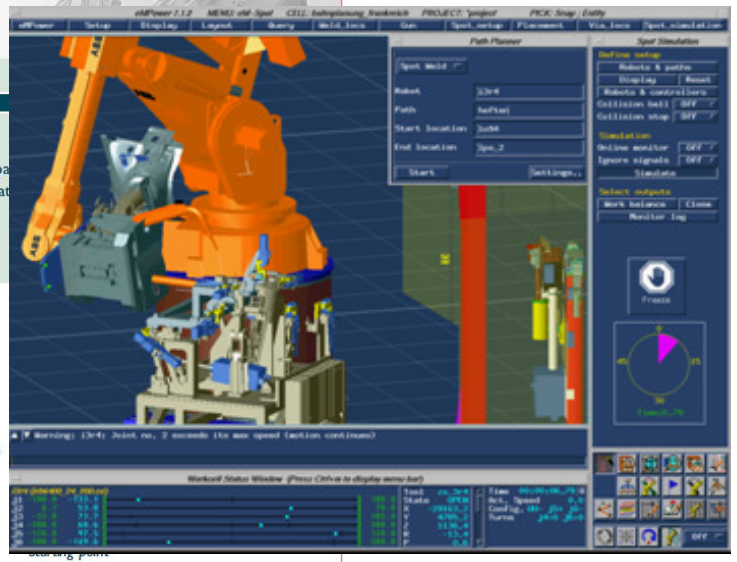
eM-Power

eM-Workplace

eM-Assembly







Examples of commercial integrations

DASSAULT SYSTEMES

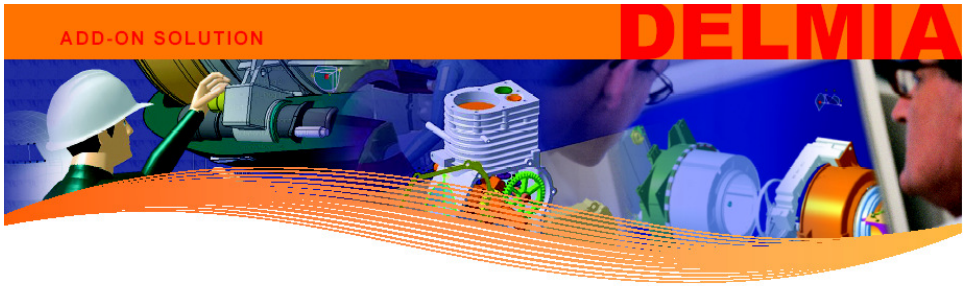
- Catia Enovia DMU Path Planner
- Catia Digital Path Analyzer
- Catia Human Path Planner

DELMIA

- Delmia DPM Path Planner
- Robotic Path Planner

3dvia

3DVIA Composer Path Planning



KINEO DPM Path Planner

A Fast, Reliable and Automatic Collision–Free Path Planning Tool to Facilitate Product Design, Serviceability and Manufacturability

Overview

KINEO DPM Path Planner is an available add-on solution for DELMIA V5 DPM Assembly that provides highly-efficient path planning commands for automatic collision-free path planning. It leverages and contributes to the existing capabilities in DPM Assembly providing advanced dynamic collision checking capabilities for all geometrical and human assembly and disassembly simulations.

KINEO DPM Path Planner facilitates design and manufacturability studies resulting in time savings due to faster computation times and improved quality of the planned path. Even an experienced operator spends several hours solving a regular path planning scenario. Searching and validating a trajectory can also be increasingly time consuming in many engineering industries including automotive, aerospace, shipbuilding, and power plants. KINEO DPM Path Planner's easy-to-use, automatic collision-free motion and path planning tools will save valuable engineering time and ensure the most efficient manufacturing processes.

For example, before trying to simulate how a car seat will be mounted into the car body by an operator or by a robot, it needs to be assessed whether or not the 3D model of the car seat can be geometrically inserted into the 3D model of the car body without colliding and while respecting specific constraints.

Also, forecasting assembly feasibility issues early in the design process will prevent costly design changes and reduce production bottlenecks later in the product lifecycle.

Furthermore, the results from KINEO DPM Path Planner can be reused for further analysis with other DELMIA V5 Solutions.

Benefits

- Optimize serviceability and manufacturability
- Reduce costly bottlenecks
- Faster computation times
- Improve product quality and reliability