

Animation Exporter (AE9)

**BPA Delivery 8 for V5R20 &
Virtools 4.0,4.1,5SP1 & 5SP3
(V5.8)**

Implementation Guide

Table of Contents

ANIMATION EXPORTER (AE9)	1
BPA DELIVERY 8 FOR V5R20 & VIRTOOLS 4.0,4.1,5SP1 & 5SP3 (V5.8)	1
Implementation Guide	1
Table of Contents	0
Copyright Notice	3
About Animation Exporter	4
Animation Exporter deliverables.....	6
Duplicate animated character with DELMIA Manikin.....	7
Export the new animation to positions file.....	11
Import the positions file and create a replay in DELMIA.....	12
Place the manikin on right position after anthropometry changes.....	15

Copyright Notice

© 2010. Dassault Systèmes, All Rights Reserved.

This guide is delivered subject to the following conditions and restrictions:

CONFIDENTIAL - This document contains unpublished, confidential and proprietary information of Dassault Systèmes.

This document or any part thereof shall not be reproduced or transferred to other documents or formats, disclosed to others or used for any purpose other than that for which it is furnished, without the prior written consent of Dassault Systèmes.

It shall be returned to Dassault Systèmes upon request.

Dassault Systèmes is a registered trademark of Dassault Systèmes.

All other trademarks belong to their respective owners.

DELMIA is a registered trademark of Dassault Systèmes SA.

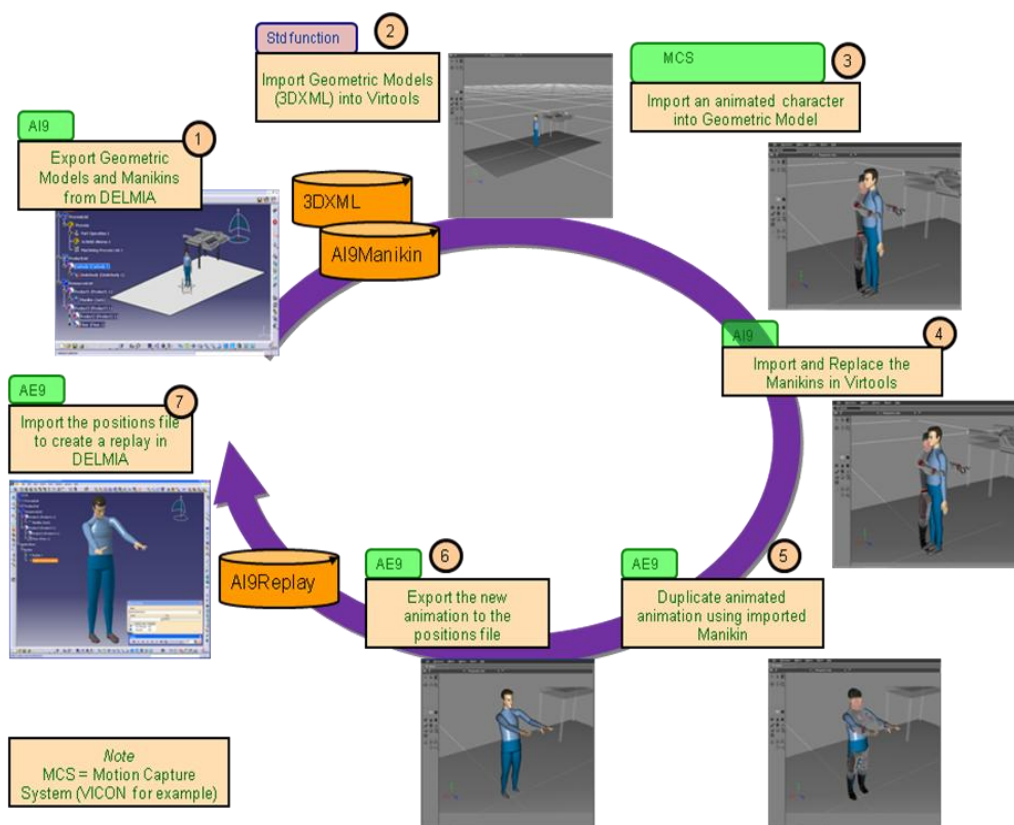
About Animation Exporter

What is Animation Exporter

Animation Exporter is a translator that exports animated character from Vrttools to DELMIA using the DELMIA manikin, with this tool we can:

- Animate the DELMIA characters with movements from real human beings
 - Animation Exporter enhances design collaboration, providing the capability to import into DELMIA animations recorded by the Motion Capture System.
- Higher quality, more realistic, faster human simulations
 - No need to re-design the animations, movement integrity is ensured by the application
- Complementary approach to confirm human simulation
 - Allows to verify, with real operators, the quality of the animations & processes designed in
 - DELMIA

WORKFLOW Reminder



1. Export Geometric Models and Manikin from DELMIA (AI9 function)
 - The function to export manikin is removed in AI9 from Drop7. The Manikin will be exported when you exporting the positions in DELMIA and these Manikins are used to replace the Manikins in geometric model when you import the positions file into Virtools.
2. Import Geometric Models (3XML) into Virtools (Virtools function)
3. Import an animated character created by MSC into geometric model
4. Import and Replace the Manikin in Virtools (AI9 function)
 - It is available to replace the Manikins by importing the positions file in AI9 from Drop7
5. Duplicate MCS Animation using imported Manikin (**AE9 function**)
6. Export the new animation to the positions file (**AE9 function**)
7. Import the positions file to create a replay in DELMIA (**AE9 function**)
8. Place the manikin on right position even after anthropometry changes (**AE9 function**)

Animation Exporter deliverables

The Animation Exporter deliverables are provided as an executable package including the following functions:

1. Duplicate animated character with DELMIA Manikin

A building block named “CloneAnim” to duplicate animated character with DELMIA Manikin

2. Export the new animation to the positions file

Export the new animation to the positions file



3. Import positions file into DELMIA

Function to import the positions file into DELMIA and create a replay in DELMIA



4. Place the manikin on right position after anthropometry changes

Function to change the origin of the manikin & to set it to the required position

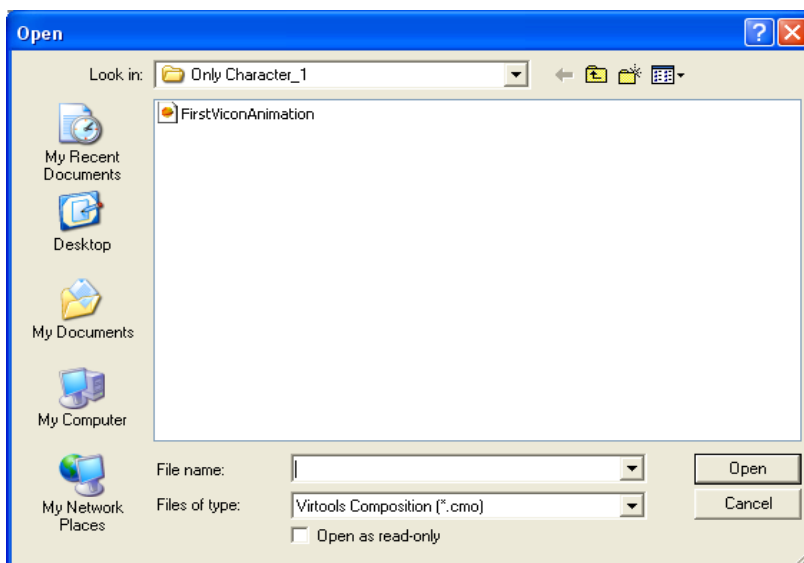
1 and 2 capabilities can be accessed through the use of a Virtools Toolbar and 3 and 4 can be accessed through DELMIA V5.

Duplicate animated character with DELMIA Manikin

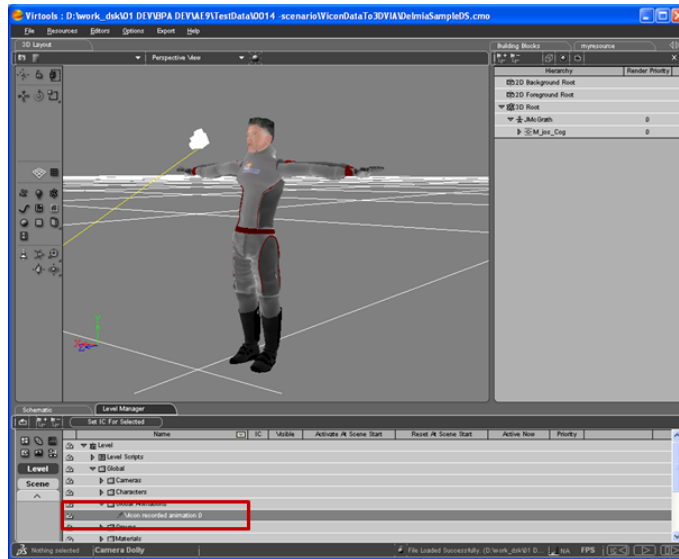
This function is to duplicate an animated character with a DELMIA Manikin

1. Import animated character

- In Virtools launch menu “File->Load Composition” to launch a panel



- Select the path and input a file name in “File name” field to load the composition that includes animated character
- Press “Open” to load animated character
 - ① A global animation contains a animated character

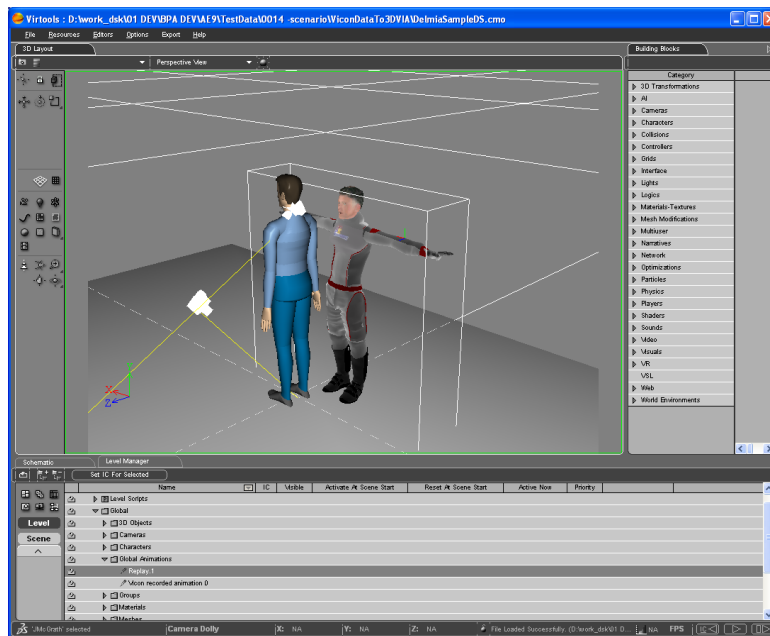


2. Import Geometric model and DELMIA Manikin

- Go to Resources/Import file to import geometric model from the 3dxml that is exported from DELMIA
 - using options as following panel to import 3dxml:



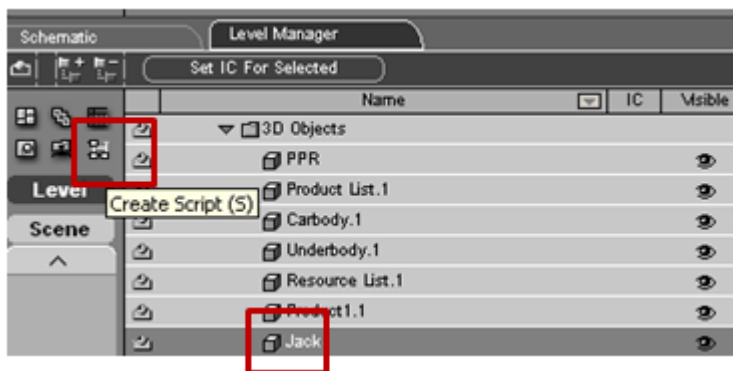
- Go to Resources/Import file to import positions file with Manikin from AI9Replay and AI9Manikin that are exported from DELMIA



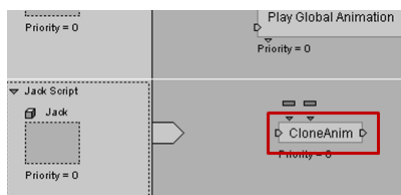
① A global animation is created

3. Duplicate animated character with DELMIA Manikin

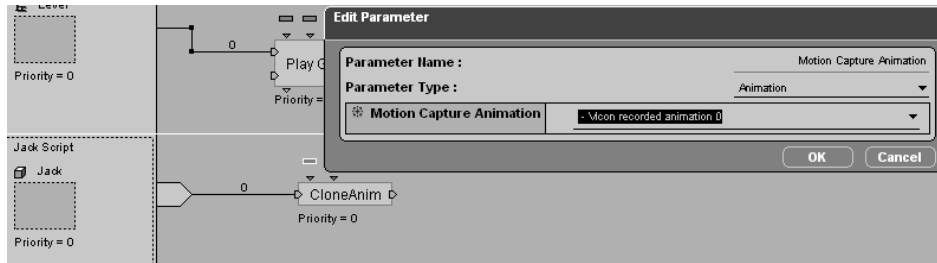
- Select a Manikin that you want to use to in duplicating animated character and create a Script on the selected Manikin



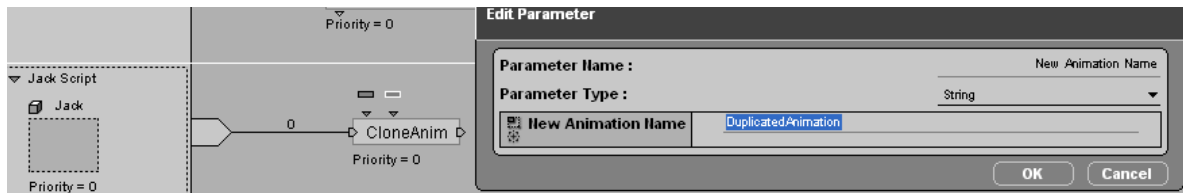
- Go to Schematic and create a “CloneAnim” Building Block on the selected Manikin



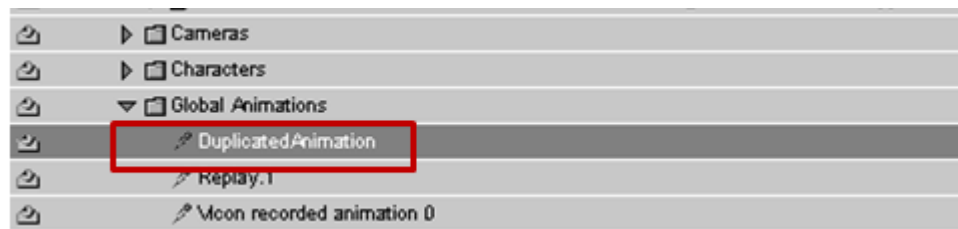
- Give the first inputs to “CloneAnim” Building Block is a global animation containing animated character



- Give the second input to “CloneAnim” Building Block is the name of the new clone animation you want to create.



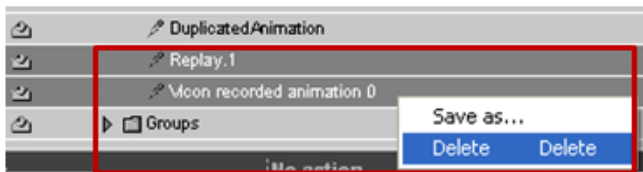
- Run the Building Block
 - ① A Clone animation is created in Virtools under “Level Manager->Global Animation”.



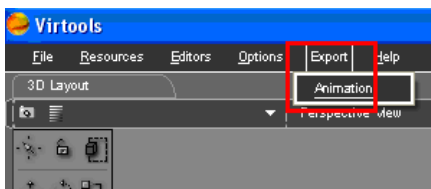
Export the new animation to positions file

To export the position data of the animation from Virtools.

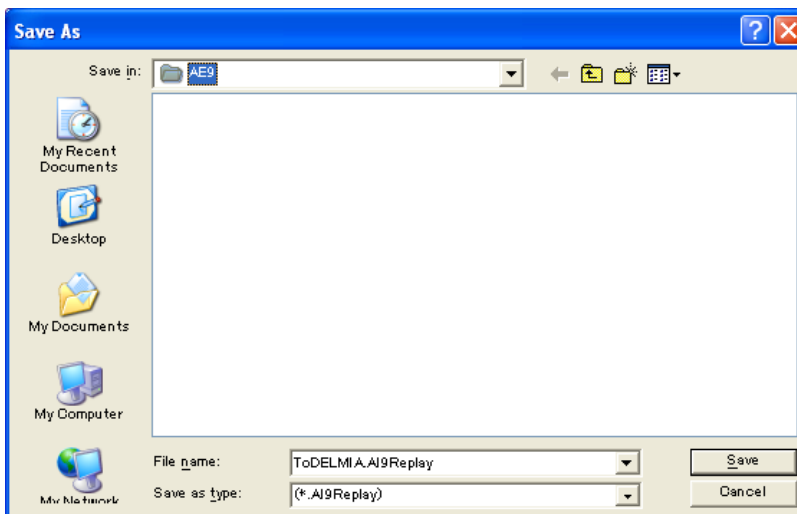
1. Keep the animations that you want to export to DELMIA and delete all other animation in the "Level Manager->Global Animations"



2. Launch the menu "Export->Animation" command from Virtools UI.

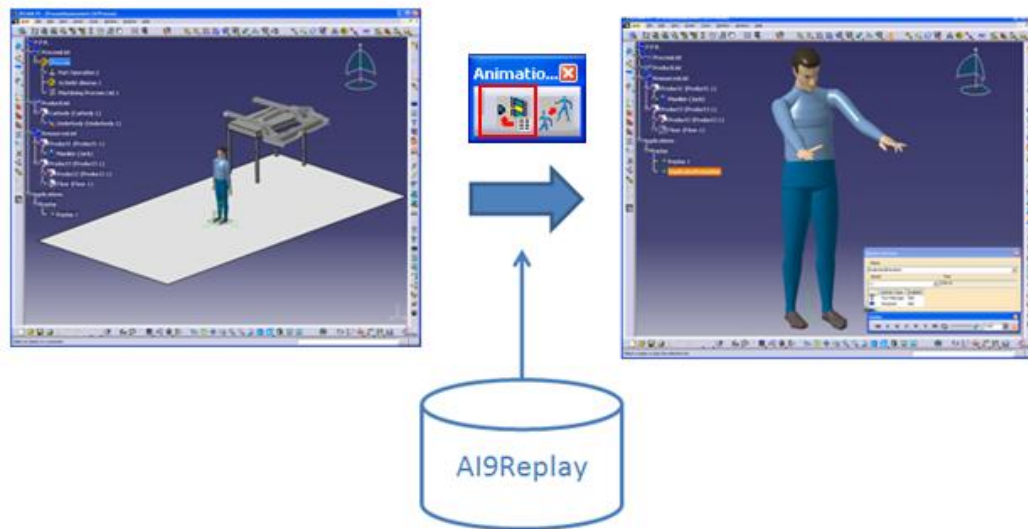


3. Give the name of the .AI9Replay file in the dialog box.

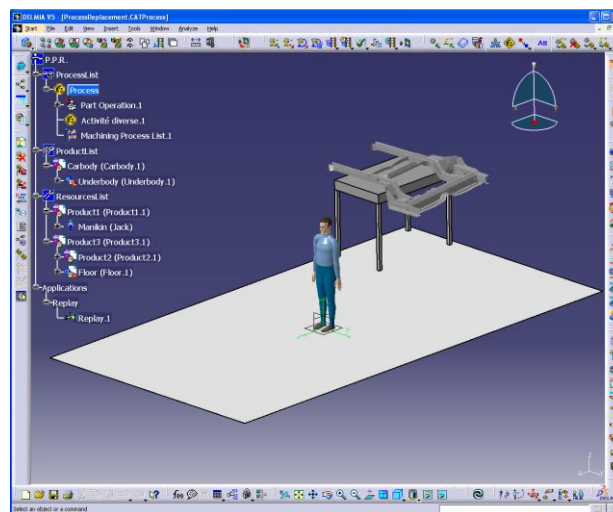


4. Export animation to a positions file with a suffix "AI9Replay"

Import the positions file and create a replay in DELMIA



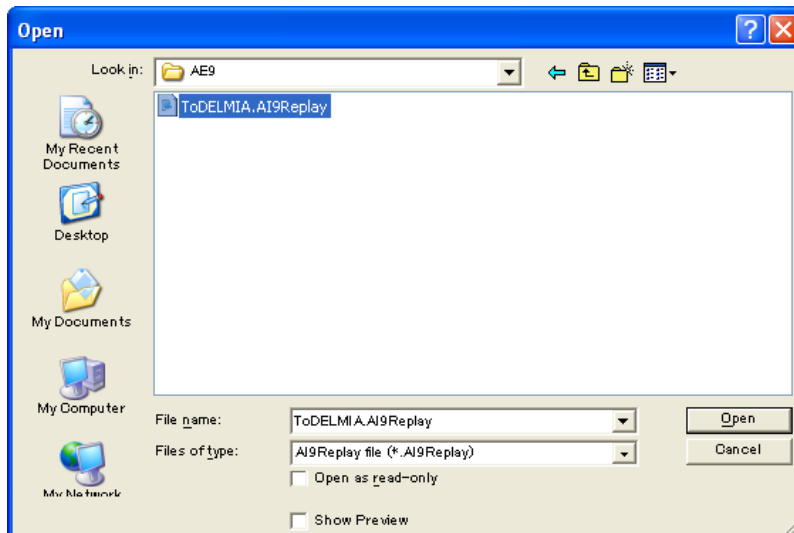
1. Launch DELMIA.
2. Open the model which is used to create 3dxml.
 - a. The model needs a replay that contains animation of one Manikin



3. Launch the command "Animation Exporter"



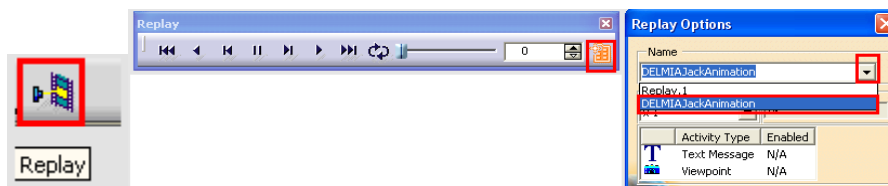
4. Select the positions file which is exported from Virtools to create a replay in DELMIA



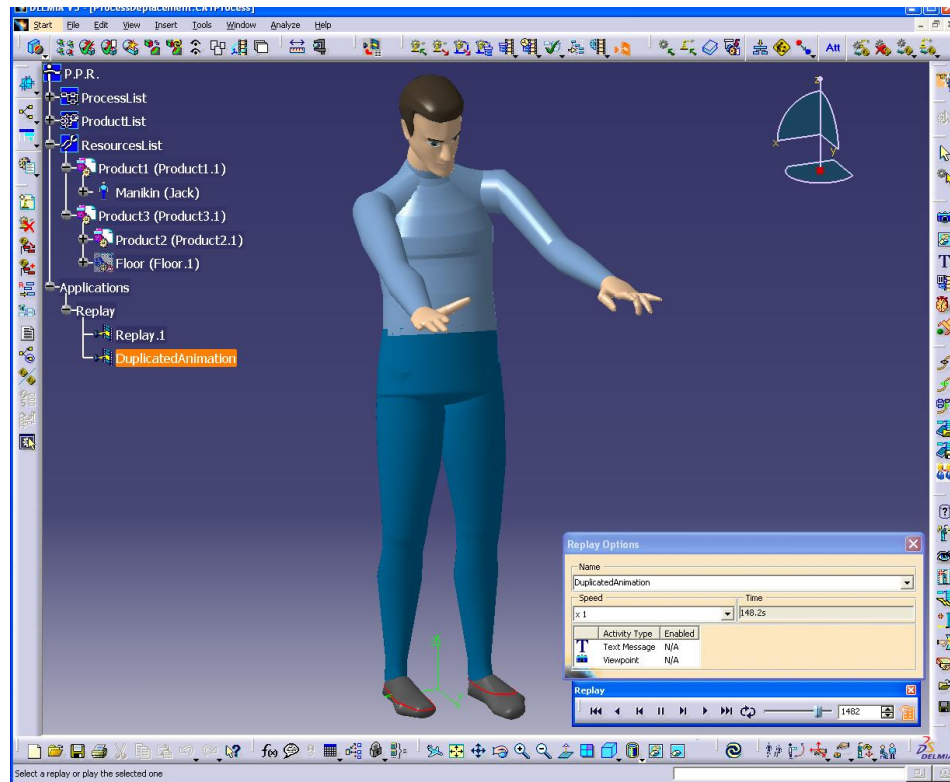
5. A new replay is created



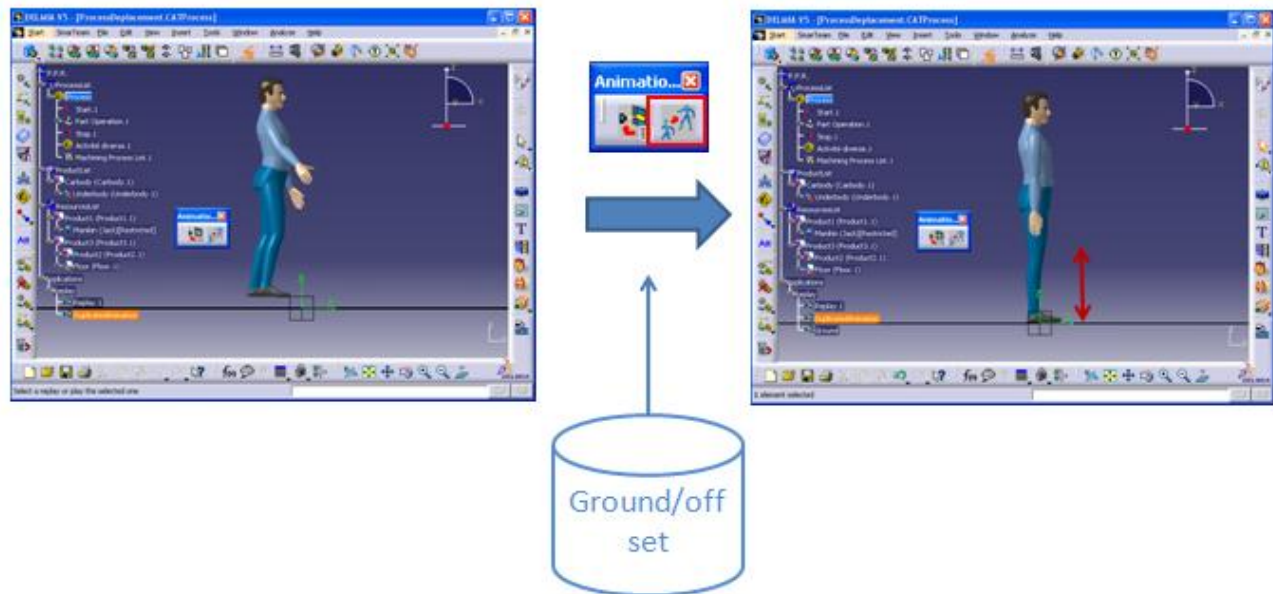
6. Play the imported animation
 - a. Click on the “simulation” toolbar
 - b. Click “Replay” button
 - c. Open “Replay Options” to select the newly created animation.



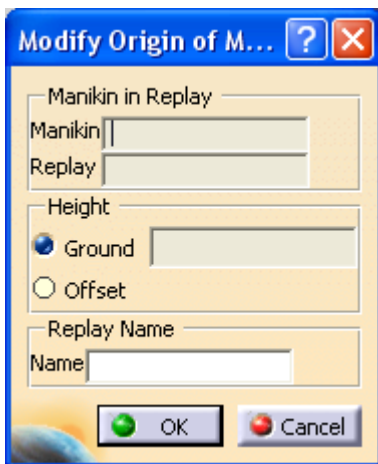
- d. Now use the “play” button.



Place the manikin on right position after anthropometry changes



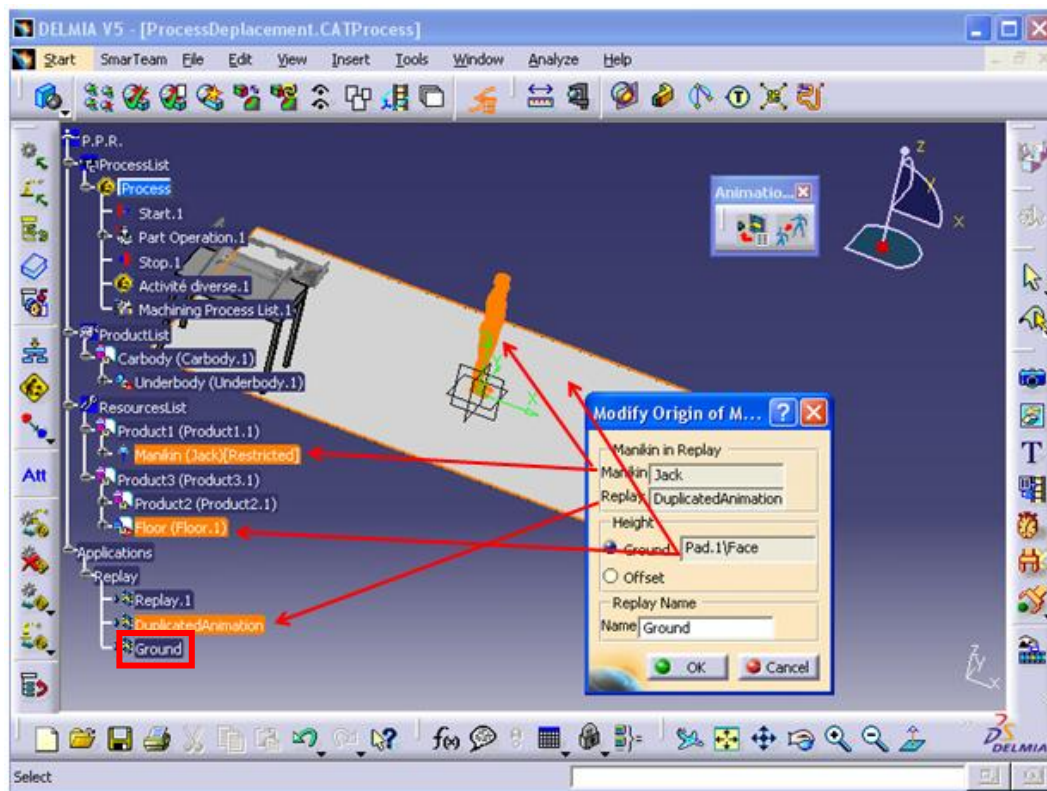
1. Launch the “AnimationExporterOrigin” function



2. Select the following

a. Scenario 1

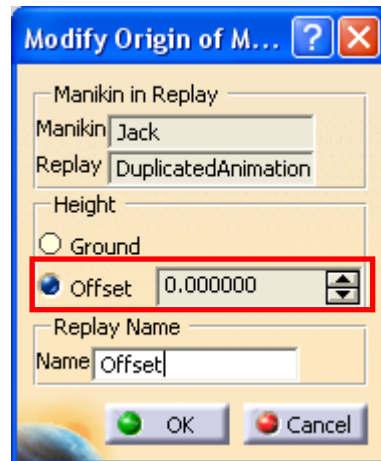
- i. Manikin (directly or from the spec tree)
- ii. The imported .AI9Replay (from the spec tree)
- iii. Check the ground check box & give the reference surface (directly or from the spec tree)
- iv. Enter a name and click OK
- v. New Replay is seen in the spec tree



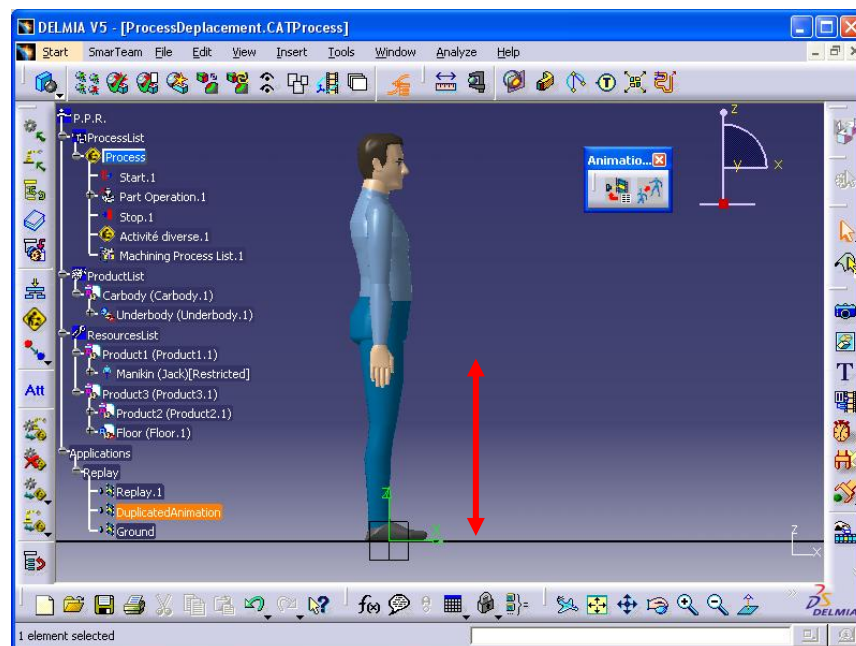
The manikin is repositioned to the reference selected i: e: Ground

b. Scenario 2

- i. Manikin (directly or from the spec tree)
- ii. The imported .AI9Replay (from the spec tree)
- iii. Check the offset check box and give a positive or a negative offset



- iv. Enter a name and click OK
- v. New Replay is seen in the spec tree



The origin of human in the replay is modified by the offset you set in the function