

Abstract
Using JSXGraph in an industrial environment

Brais Oubiña Vila
Focke Meler Gluing Solutions
boubina@meler.eu

My presentation will be a talk targeting a general audience: no previous knowledge will be required to understand it and its content, very different to what has been presented in the previous editions of the Conference, showcases how JSXGraph can be a very valuable tool even in contexts where it would not be expected to be found.

One way of applying hot-melt adhesive, commonly called *swirling*, consists of blowing air around an adhesive jet to make it spin, forming a prolate cycloid on the substrate:



Figure 1: High-speed photograph of a swirl application.

The adhesive density and number of self-intersections are key features for a good bonding, so I used JSXGraph (for the first time) to visualize, on a simple plot with a few sliders, how the parameters of application change the curve:

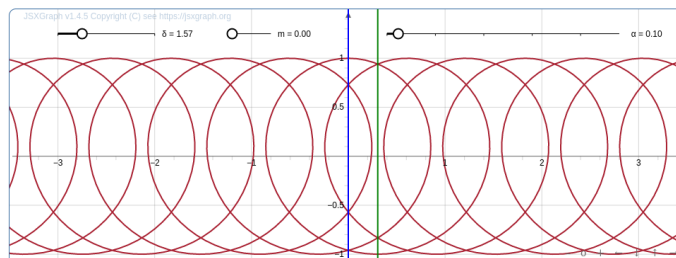


Figure 2: Mathematical curve representing a swirl application.

Surprised by how easy it was to do the programming, I started using it for more complex tasks, particularly to create two applications that have been distributed among our salespeople and technicians to help them understand a new product that we have launched:

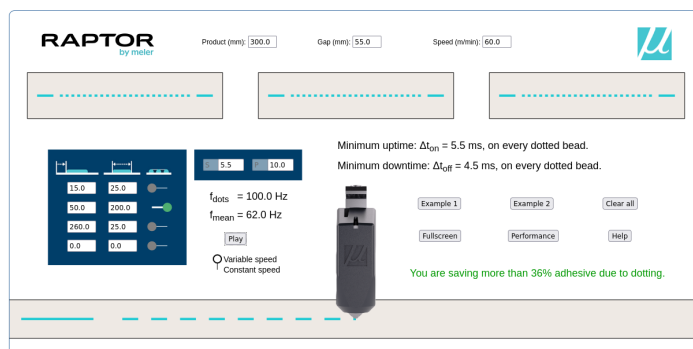


Figure 3: The Raptor Infinity Application Planner.

The Raptor Infinity Application Planner lets the user (usually salespeople) simulate an application given a set of parameters from the customer and evaluate whether it might be feasible with the specific applicator for which this tool has been designed.

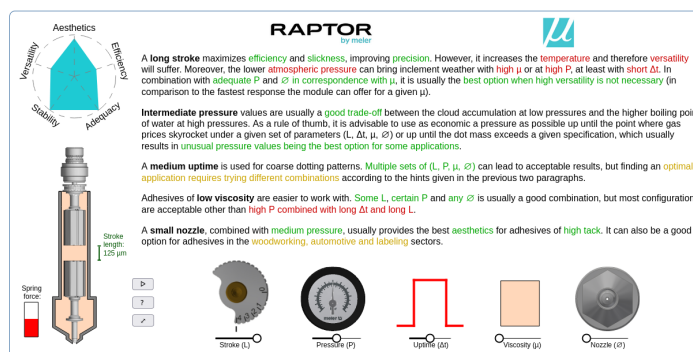


Figure 4: The Raptor Infinity Parameter Explorer.

The Raptor Infinity Parameter Explorer helps the user (commonly service technicians) understand how the applicator will respond to changes in the input parameters and why, which is necessary to be able to optimize the results obtained.

In this talk, I will explain what my previous background was, why I started using JSXGraph, which results I was able to obtain and the amount of effort I needed to make. My expectation is that the majority of the audience will find it easy to follow and particularly interesting as something that one would not necessarily expect to see, but is simple and useful, being practical to the point that *it just works*.