

Grondin Acoustique **Accelerates** **Layout by 5.5 Times** on a Curved Podium Deck Layout with **Mechasys**

PROJECT BACKGROUND

Project: HEC Édifice Hélène-Desmarais

Location: Montreal, Quebec

Type of Project: Curved podium deck marking & installation

Project Scope: 10 rooms with podium decks - 705 m² (7,592 ft²) of floor space

Key Actors: Grondin Acoustique (Interior Systems Contractor), MechasyS (XR Projector manufacturer)



5.5x

FASTER
LAYOUT TIME

17k\$

CAD
IN SAVINGS

4 tons

OF MATERIALS
SAVED

CHALLENGE

Ellipses are intricate geometrical shapes comprised of multiple curves, each with distinct radius and center points. Traditionally, crafting these **curves requires a meticulous process**. A worker must locate the precise center point of each curve, then fashion a string to the appropriate dimensions corresponding to the radius. This string is then utilized, often affixed to a pencil, to accurately mark the curve's trajectory.

During the HEC Montreal project, an additional challenge arose: the party walls had already been constructed. Consequently, **accessing the requisite center points for laying out the ellipses proved unfeasible**, given their positioning outside the confines of the classrooms.

Grondin Acoustique partnered with MechasyS to execute the layout of several podium decks within the newly constructed HEC Montreal university pavilion in Montreal, Canada.

SOLUTION

Mechasys' projector delivers substantial efficiency improvements across various surfaces. The projector's advanced positioning system, supported by highly precise scanning technologies, is designed to **seamlessly translate plans into a comprehensive projected site layout**. With just one carpenter overseeing progress via a tablet with an intuitive interface, in addition to **reducing labor expenses**.

Furthermore, the projector has demonstrated a proven **increase in productivity while enhancing accuracy and consistency**. It broadened the scope of layout beyond traditional methods like chalk lines and markers.



RESULTS

Mechasys' projector surpassed expectations by streamlining the layout process, **slashing 12 days from the timeline**. This achievement not only accelerated the project but also instilled **greater confidence in the final layout among stakeholders**. Despite the facility's intricate design challenges, the projector managed to **reduce costs by 74%**, and **eliminating 4 tons of construction waste**.

By transferring more information directly from the digital model to the field, it empowered Grondin Acoustique's layout carpenter and installation teams to make informed decisions throughout the process, from planning to hands-on installation.

”

I learned to use the projector within 1 day, it's very simple. I can't wait to have my own.

- Tony Tanguay
Senior Layout Carpenter



SCAN TO WATCH
FULL VIDEO

COST & TIME REDUCTION

5.5x → 17k\$
FASTER CAD SAVED



COMPARATIVE ANALYSIS

These metrics represent the most tangible benefits of Mechasys' projector for curved podium layouts. In the fiercely competitive construction sector, the adoption of a projector is crucial for advancing both your own interests and those of your clients on a large scale.

CURVED WALL LAYOUT (MARKING)

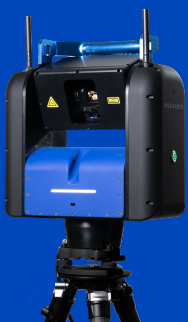
		With chalk lines	With Mechasys
Initial Data	Total Area	2374 m ² (7,788 ft ²)	
	Number of Rooms	10 rooms	
	Hourly Labor Cost (CAD)	\$84.44	\$84.44
	Team Composition	2 Layout Workers	1 Layout Worker
Productivity	Avg Productivity (Man-Hours/Room)	22.8 m-h/room	4.1 m-h/room
Time	Total Time (Man-Hours)	228 man-hours	41 man-hours
	Total Time (Days)	14.25 Days	2.5 Days
Waste	Total Weight of Material Waste	1,828 kg (4,029 lbs)	-
Cost	Total Labor Cost (CAD)	\$19,252	\$3,463
	Total Cost of Material Waste (CAD)	\$4,571	-
	Rental Cost (CAD)	-	\$2,699
	Total Cost	\$23,823	\$6,162
	Total Cost Savings (CAD)	\$17,662	
	Net Productivity Gain	5.5x	

COLLABORATORS



Interior Systems Contractor

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