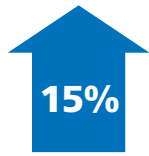


# DO COLLABORATIVE TOOLS IMPROVE ENGINEERING DESIGN?

SMART

## CONCLUSION: MORE COLLABORATION = GREATER SUCCESS

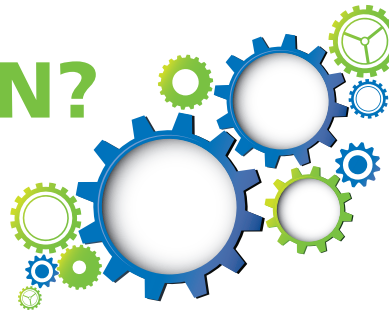
Engineering design teams who consistently used tools that supported collaboration, such as physical prototypes and SMART Board interactive whiteboards, experienced a greater degree of success in meeting clients' requirements.



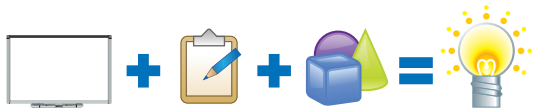
Successful teams used the interactive whiteboard **15% more often** than unsuccessful teams.



Successful teams used the SMART Board interactive whiteboard **4.5 hours more** than unsuccessful teams.



## COLLABORATIVE TOOLS ENHANCE EXPERIENCE



These design tools led to a **significantly higher number** of elaborated ideas.



Successful teams had **little to no prior experience** with the interactive whiteboard.



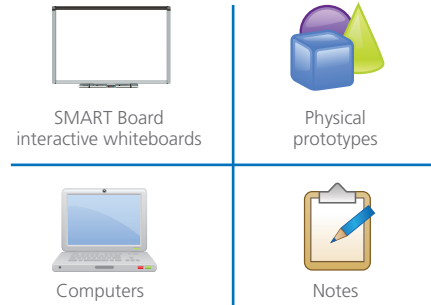
Successful teams used the interactive whiteboard **equally** in the ideation and refinement stages. Unsuccessful teams used the tool less in the refinement stage.



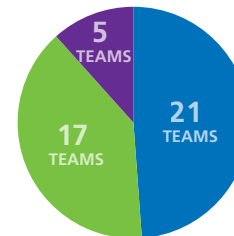
Late adoption of physical prototypes is a key characteristic of unsuccessful teams.

## DEFINING TOOLS AND SUCCESS

### 4 TYPES OF DESIGN TOOLS USED



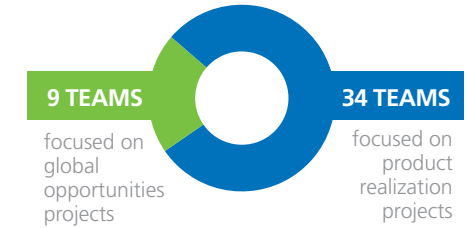
### LEVELS OF SUCCESS



- high** - average rating above 3 out of 4
- medium** - average rating 2-3 out of 4
- low** - average rating less than 2 out of 4

## ABOUT THE STUDY

Researchers at the University of Pittsburgh recently studied how different physical tools supported or hindered the success of engineering students in a project setting.



### THE COMPLETE STUDY

Read the study's report, *Physical Design Tools Support and Hinder Innovative Engineering Design.*

[www.smarttech.com/pittsburghresearch](http://www.smarttech.com/pittsburghresearch)



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