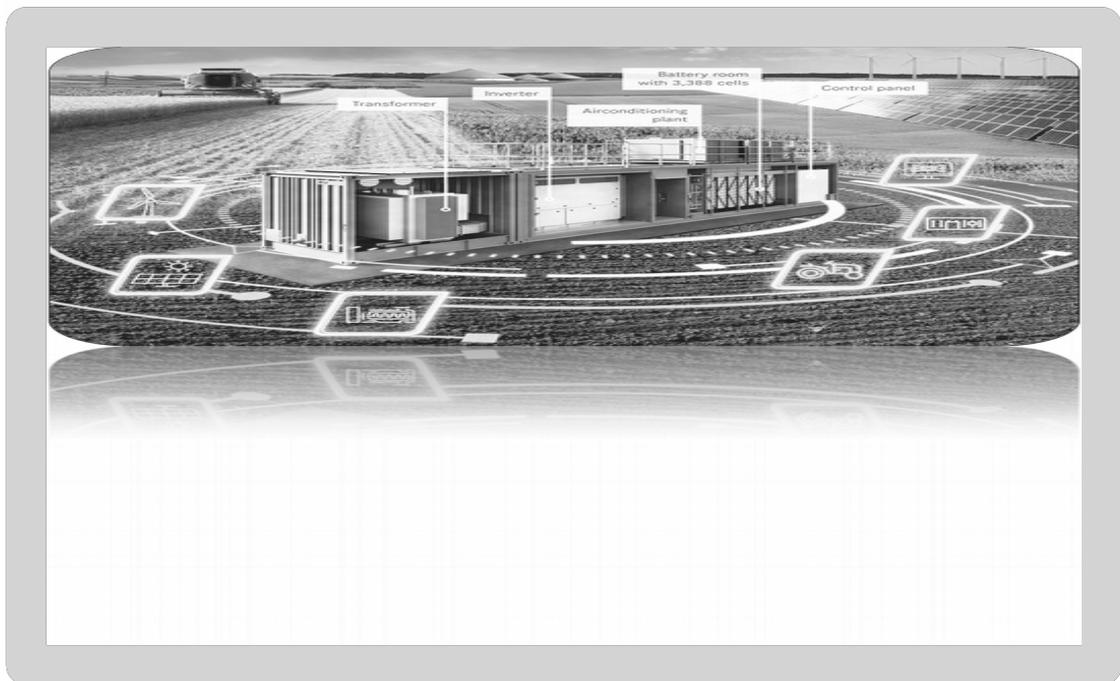


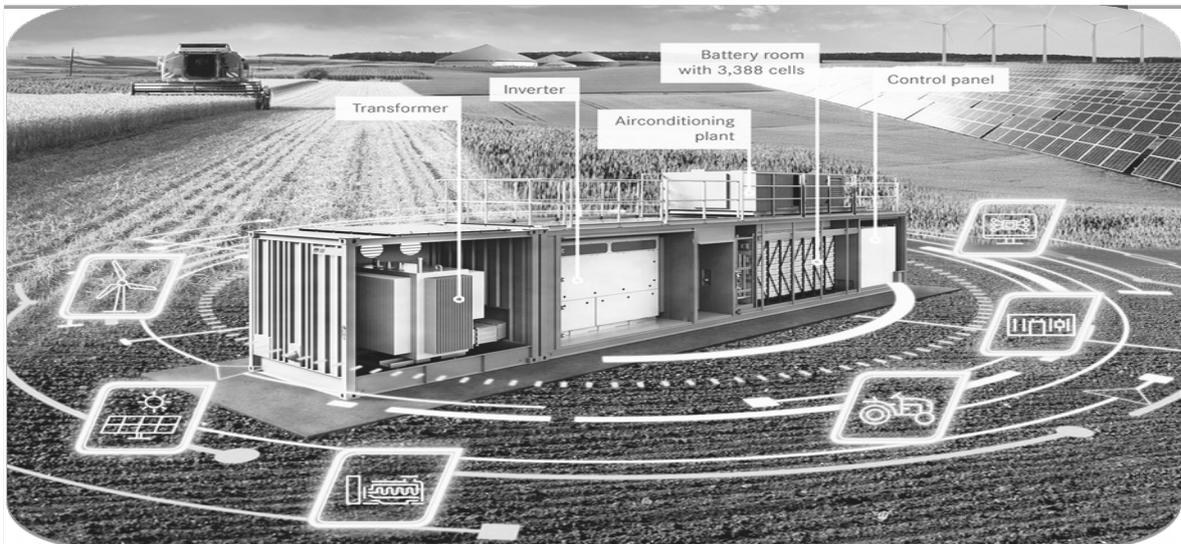
COMSOL MULTIPHYSICS SOFTWARE ENGINEERING BENACHIR NOUHAILA



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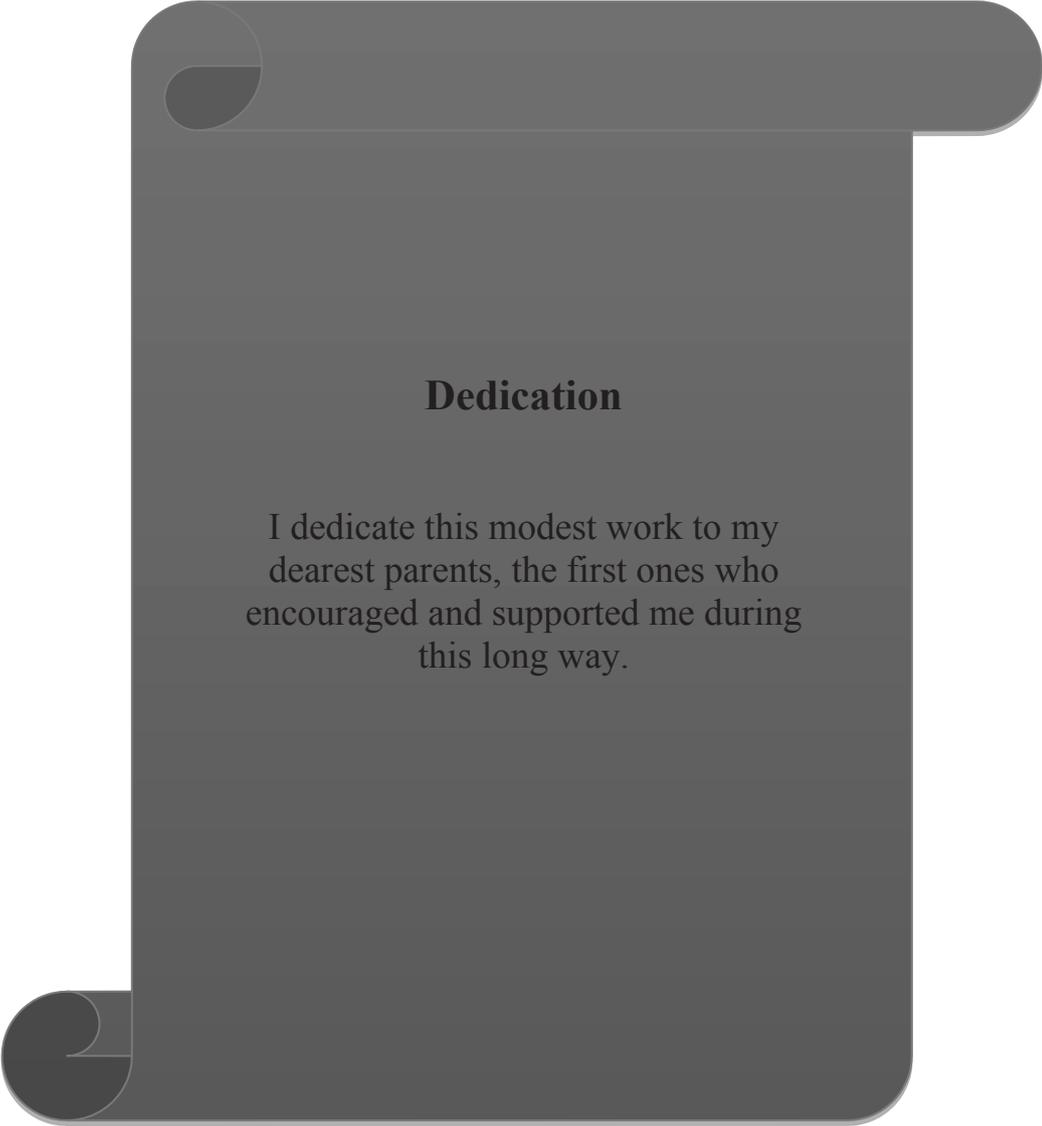


**COMSOL
MULTIPHYSIC
S SOFTWARE
ENGINEERING**

{Architecture is a wonderful expression of the discovery process. It's like a scientist who doesn't know the answer, but knows the path to it. That's what drives me: the joy of the path, the discovery."}

Glenn Murcutt Architect, winner of the
2002 Pritzker Architecture Prize

...A My BENACHIR Nouhaila



Dedication

I dedicate this modest work to my
dearest parents, the first ones who
encouraged and supported me during
this long way.

Dedication

Thanks

"Praise be to GOD, lord and master of the universes".

I would like to express my thanks to a whole world of people who have made this study possible and who have contributed to its elaboration in any form.

I address myself to GOD, the almighty, to thank him
for having given me the courage, the support, the
patience to carry out this work.



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UNIVERSITÉ HASSAN 1^{ER}



THÈSE PRÉSENTÉE EN VUE DE L'OBTENTION DU
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