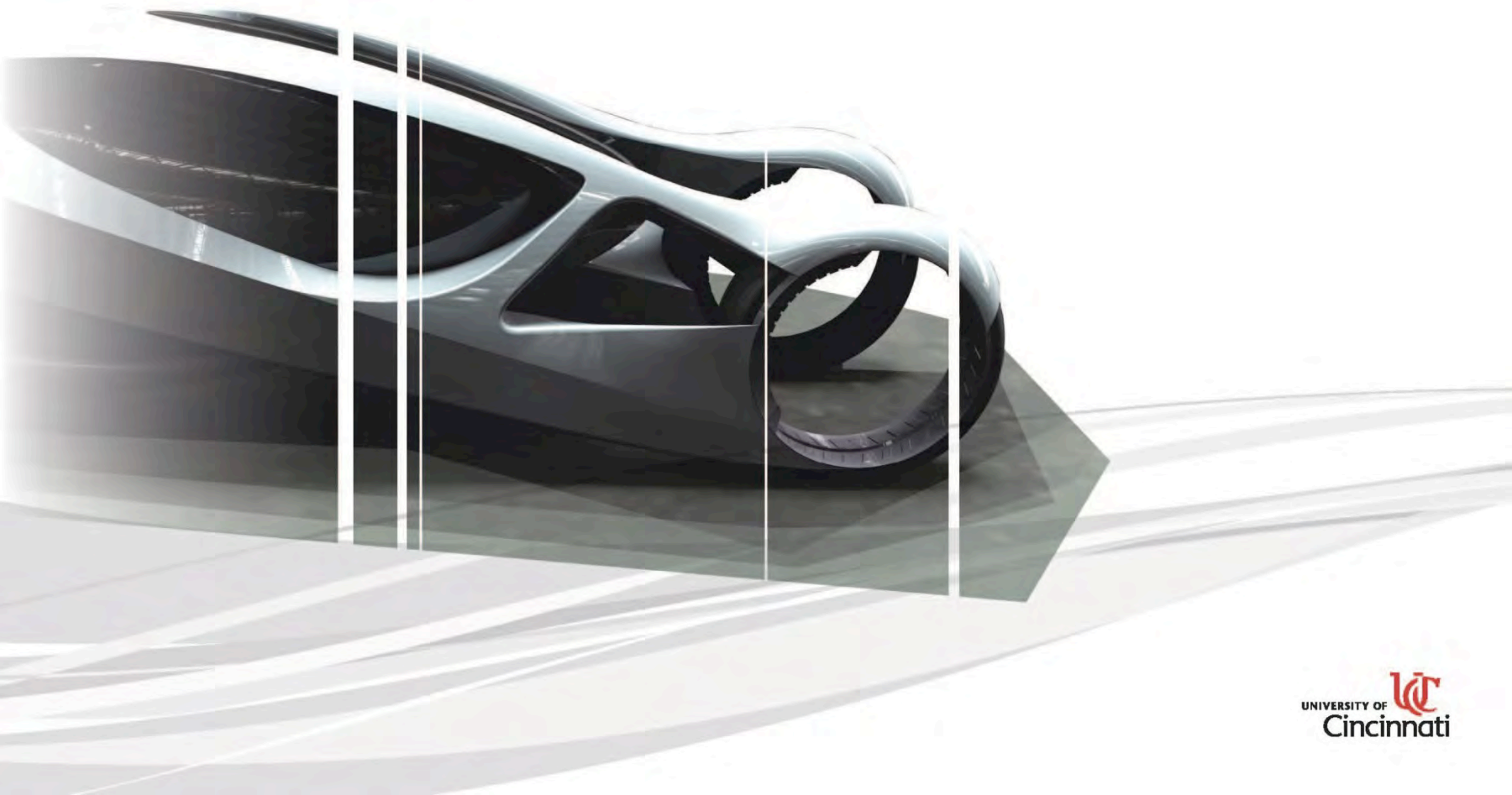


The History of PACE and the Future of Transportation at the University of Cincinnati



The History of PACE and the Future of Transportation at the University of Cincinnati

BRIGID O'KANE

Professor of Industrial Design
brigid.okane@uc.edu | 513-556-0833

SAM ANAND

Professor of Mechanical Engineering
sam.anand@uc.edu | 513-556-5596

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PACE

Partners of Advanced Collaborative Education

PACE

Partners of Advanced Collaborative Education

Partners



SIEMENS



Autodesk

ORACLE

PACE

Partners of Advanced Collaborative Education

Partners



SIEMENS



Autodesk

ORACLE

Contributors and Supporters



TRUBIQUITY





Partners of Advanced Collaborative Education

Supports strategically-selected academic institutions worldwide, to develop the *product life cycle management* team of the future.

PACE Institutions Globally



Australia

Monash University



Brazil

University of São Paulo



Canada

University of British Columbia

Dalhousie University

McMaster University

Queen's University

University of Ontario Institute of Technology

University of Toronto

University of Waterloo



China

Jilin University

Shanghai Jiao Tong University

Tongji University



Germany

RWTH Aachen University

Technische Universität Darmstadt



India

National Institute of Design (NID)

PES Institute of Technology

SJCE--Mysore



Mexico

Instituto Politecnico Nacional

Instituto Tecnologico Autonomo de Mexico

ITESM - Estado de Mexico

ITESM - Monterrey

ITESM - Toluca

Universidad Iberoamericana



South Korea

Hongik University

Inha University

Korea University

Sungkyunkwan University



Sweden

University West



United States

Art Center College of Design

Brigham Young University

College for Creative Studies

Georgia Institute of Technology

Howard University

Kettering University

Lehigh University

Massachusetts Institute of Technology

Michigan State University

Michigan Technological University

Missouri University of Science & Technology

New Mexico State University

Northwestern University

Prairie View A&M University

Purdue University

Rensselaer Polytechnic Institute

Tuskegee University

University of Cincinnati

University of Michigan

University of Pennsylvania

University of Texas at El Paso

Virginia Tech

Wayne State University

PACE Institutions Globally

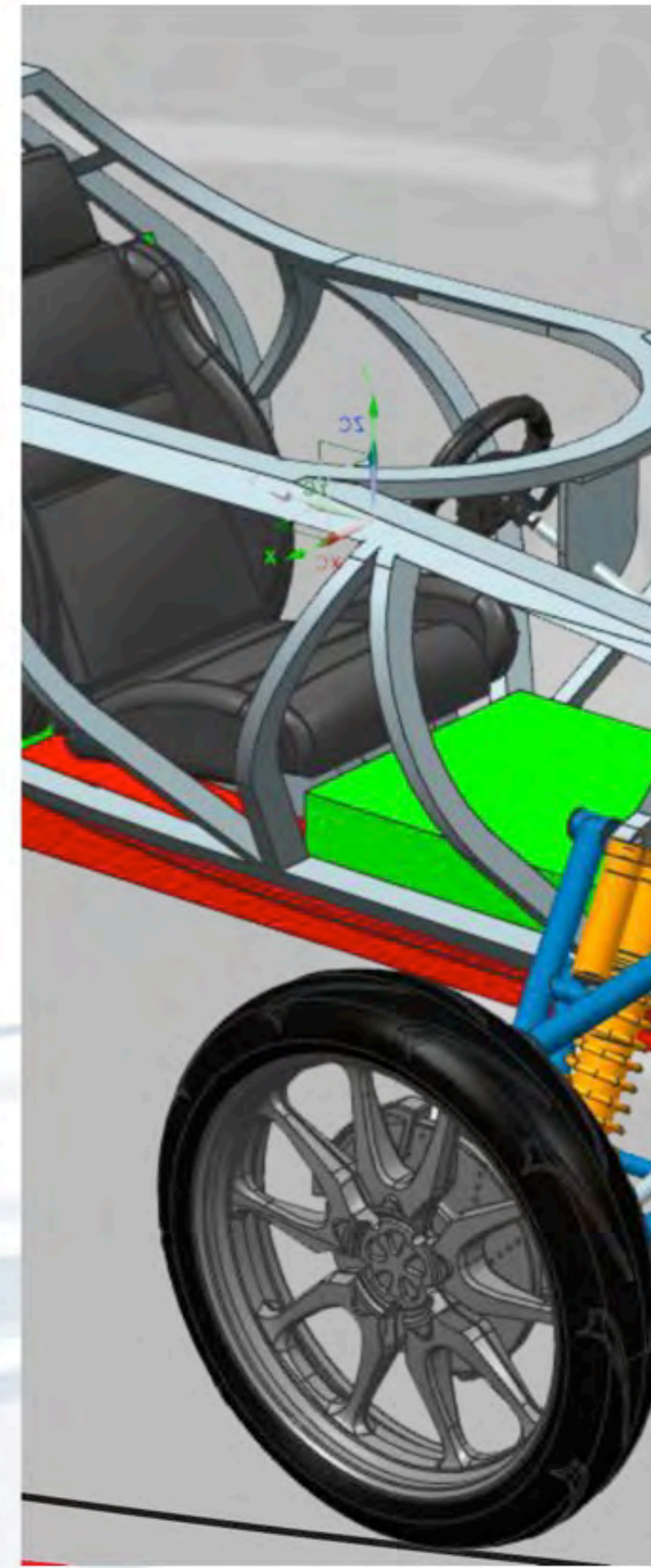


■ PACE DESIGN INSTITUTION;
■ PACE ENGINEERING INSTITUTION;
■ PACE DESIGN & ENGINEERING INSTITUTION

Global Collaborative Projects, Competitions, and Activities



Improve Standards in Math Based Technology



Product Life Cycle Management - PLM



PACE Advantages

Grants

Equipment

Software

Interaction with Industry



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Timeline - Transportation Design Track

Timeline - Becoming a PACE Institution

UC Benefits with PACE

Transportation Design Track Timeline



The Transportation Design Track

25+ Years

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010



Sponsored Studios
Key Design Institution

The Transportation Design Track

25+ Years

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

**Sponsored Studios
Key Design Institution**

**Created Transportation
Design Track**

**Transportation Design Track
is Implemented**

**Renovation of Transportation
Design Studio**

First Graduating Class From the Track

Past

The Transportation Design Track

25+ Years

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

**Sponsored Studios
Key Design Institution**

**Created Transportation
Design Track**

**Transportation Design Track
is Implemented**

**Renovation of Transportation
Design Studio**

First Graduating Class From the Track

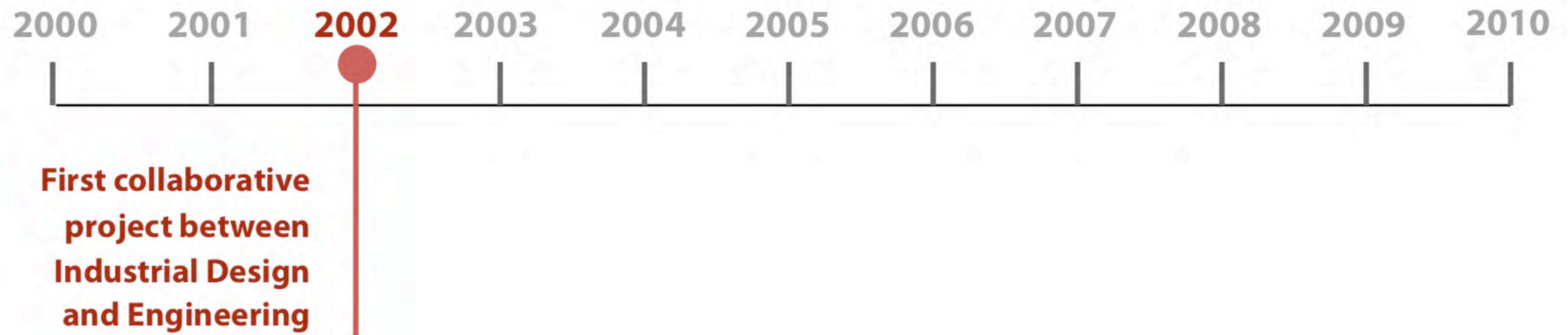
**New Track Mission
Track ends and is Integrated into ID Curriculum
for Semesters Conversion**

Past

Becoming a PACE Institution Timeline



UC Becoming a PACE Institution



University of Cincinnati and PACE

2000 2001 2002 **2003** 2004 2005 2006 2007 2008 2009 2010

First collaborative
project between
Industrial Design
and Engineering

**UC team travels to GM
for PACE/UC presentation**

University of Cincinnati and PACE

2000 2001 2002 2003 **2004** 2005 2006 2007 2008 2009 2010

First collaborative
project between
Industrial Design
and Engineering

UC team travels to GM
for PACE/UC presentation

**UC team travels to BYU
and PACE comes to UC**

University of Cincinnati and PACE

2000 2001 2002 2003 2004 **2005** 2006 2007 2008 2009 2010

First collaborative
project between
Industrial Design
and Engineering

UC team travels to GM
for PACE/UC presentation

UC team travels to BYU
and PACE comes to UC

UC receives invitation to apply

University of Cincinnati and PACE

2000 2001 2002 2003 2004 2005 **2006** 2007 2008 2009 2010

First collaborative
project between
Industrial Design
and Engineering

UC team travels to GM
for PACE/UC presentation

UC team travels to BYU
and PACE comes to UC

UC receives invitation to apply

UC application submitted and accepted
Resources Chart signed by all

University of Cincinnati and PACE

2000 2001 2002 2003 2004 2005 2006 **2007** 2008 2009 2010

First collaborative
project between
Industrial Design
and Engineering

UC team travels to GM
for PACE/UC presentation

UC team travels to BYU
and PACE comes to UC

UC receives invitation to apply

UC application submitted and accepted
Resources Chart and model created

UC hosts PACE Press Event

In-kind gift of \$420,687,130

Past

University of Cincinnati and PACE



First collaborative project between Industrial Design and Engineering

Ongoing PACE activities

UC team travels to GM for PACE/UC presentation

UC team travels to BYU and PACE comes to UC

UC receives invitation to apply

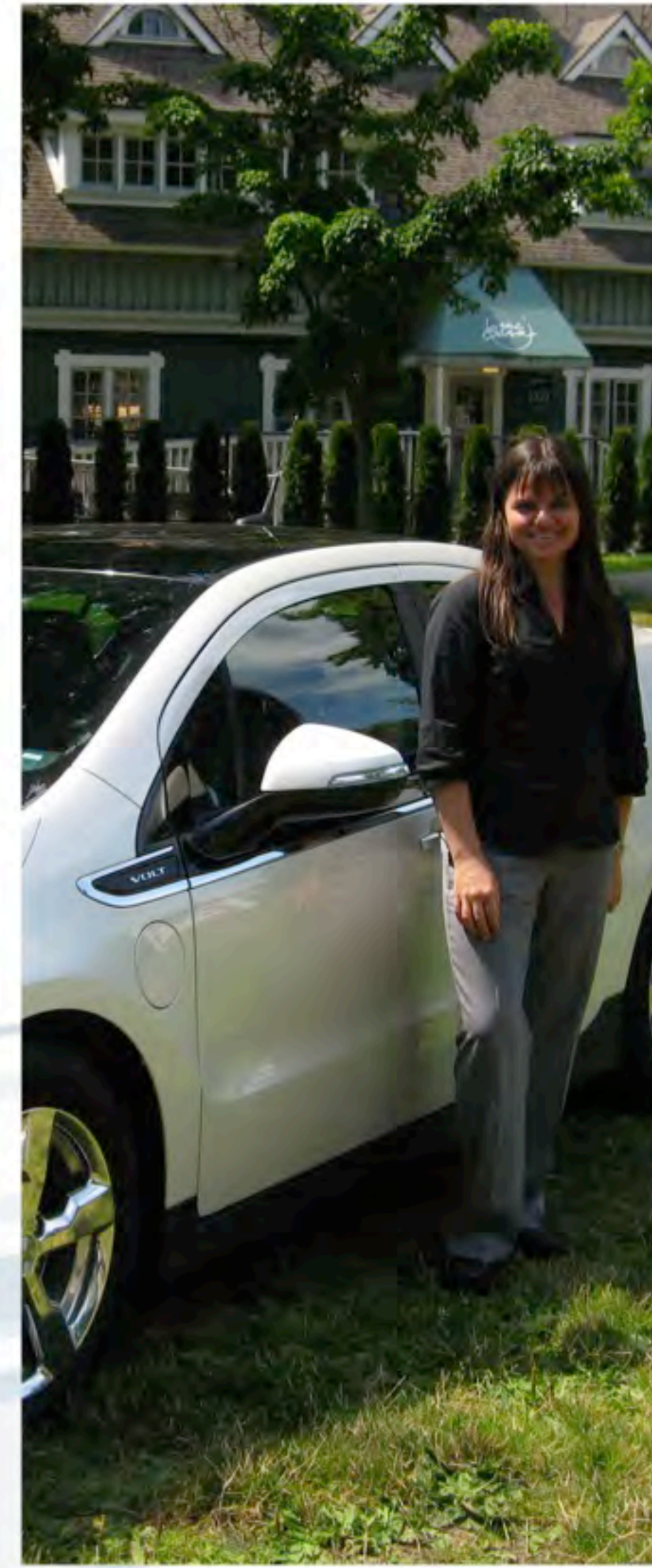
UC application submitted and accepted
Resources Chart signed by all

UC hosts PACE Press Event

In-kind gift of \$420,687,130

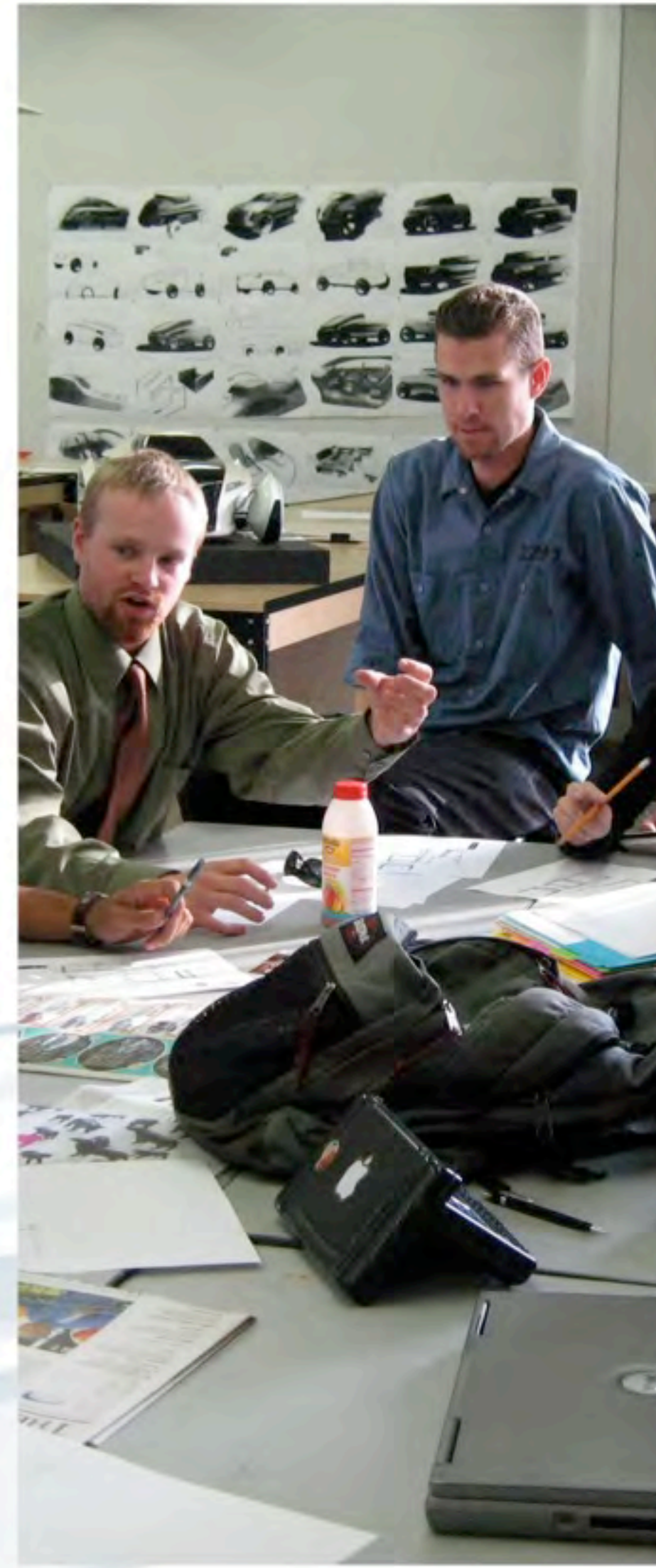
UC Benefits

Global PACE Forums and Connecting with the Global Community



UC Benefits

Collaborative Activities Between Industry and Academia



UC Benefits

PACE Spaces and Equipment



UC Benefits

PACE Spaces and Equipment





PACE Global Activities

Brigid O'Kane

Co-Director of the PACE Transportation Research and Innovation Space

Sam Anand

Co-Director of the PACE Engineering Headquarters



PACE Projects at the University of Cincinnati

Competitions and Collaborations on a Global Scale





PACE – Brigid O’Kane

PACE Appointed Global Leader for Industrial Design

Create Cross-disciplinary Projects

Network with the Global Community

Facilitate Collaboration

Connecting People

PACE – Brigid O’Kane

PACE Appointed Global Leader for Industrial Design

Distinguished PACE Integrator Award

Received at the 2011 Annual PACE Forum



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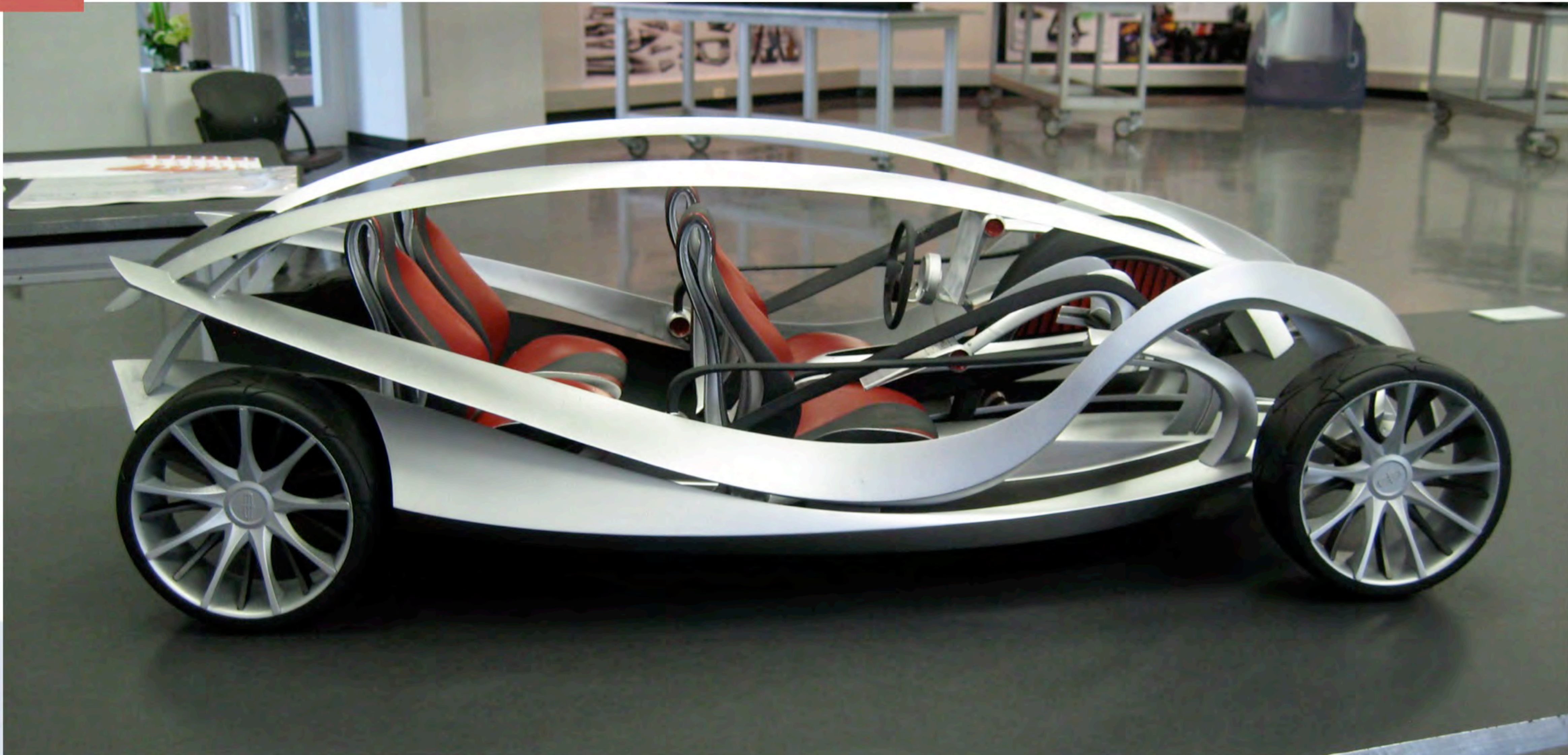
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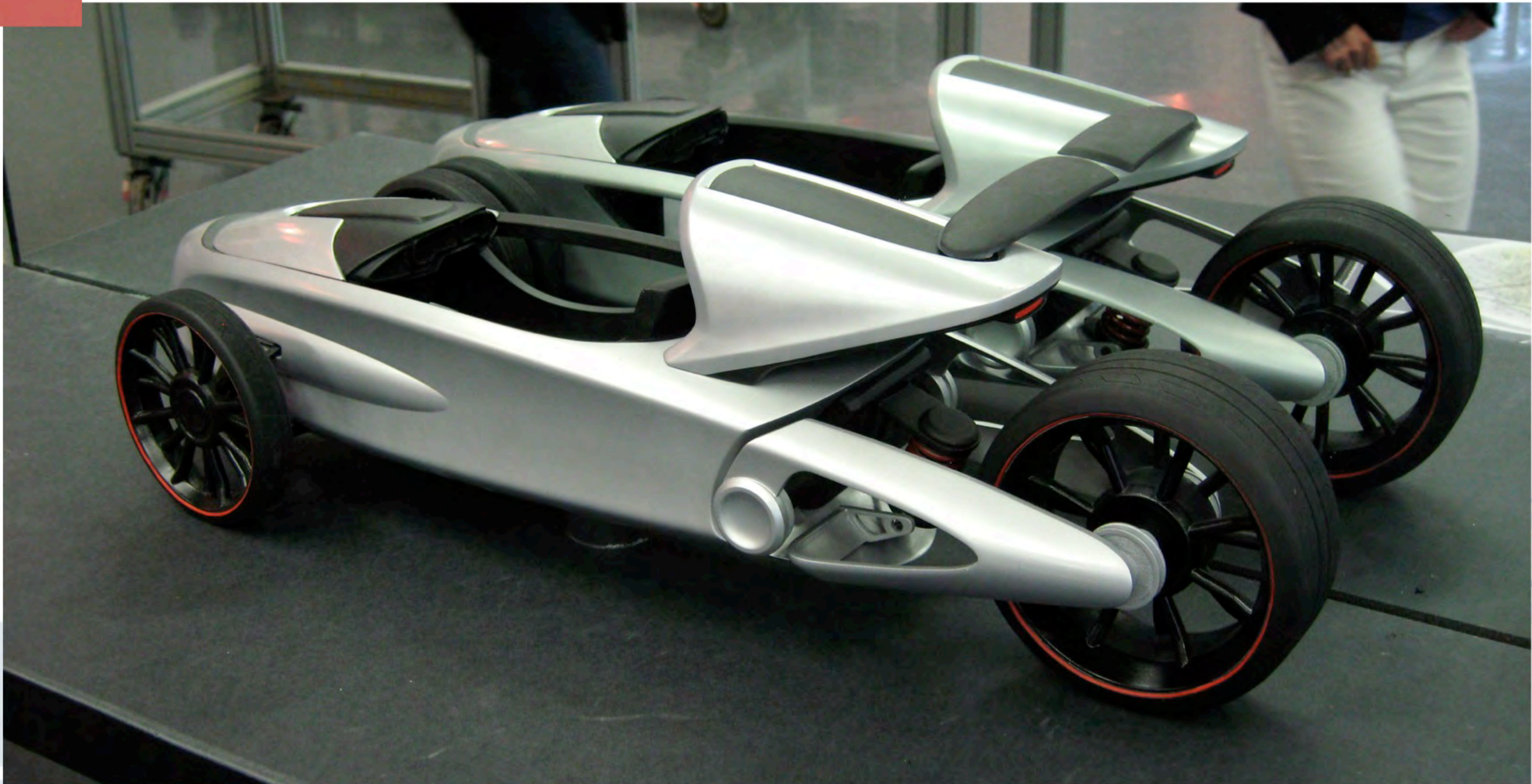
Conclusion

2009 PACE Human Factors Capstone Project



Ryan Wohleber

2009 Innovative Mobility Solution



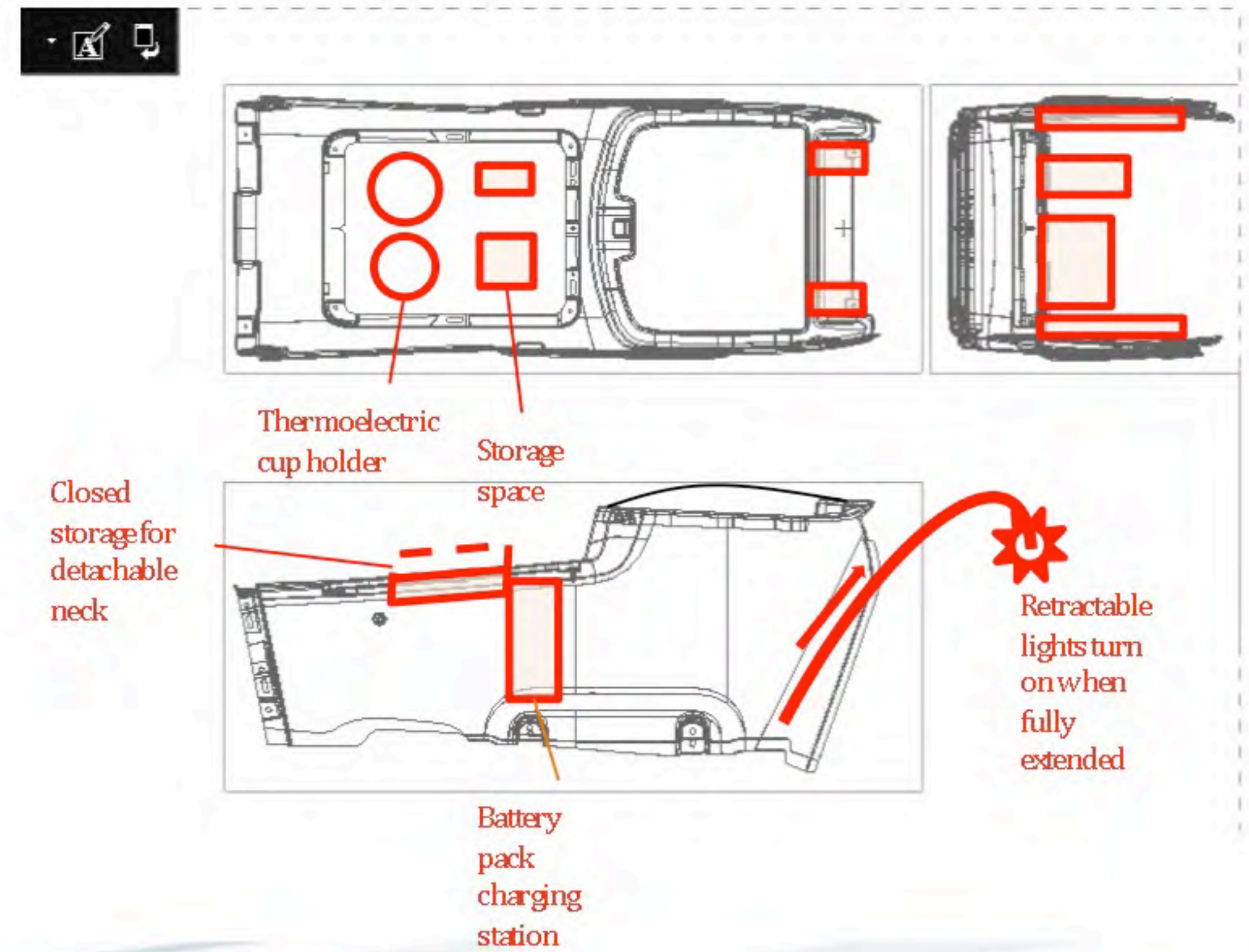
Luke Yates

Present

2007 PACE Console Competition



Team Project



2011 PACE Sustainable Urban Transport Project – Ride Sharing

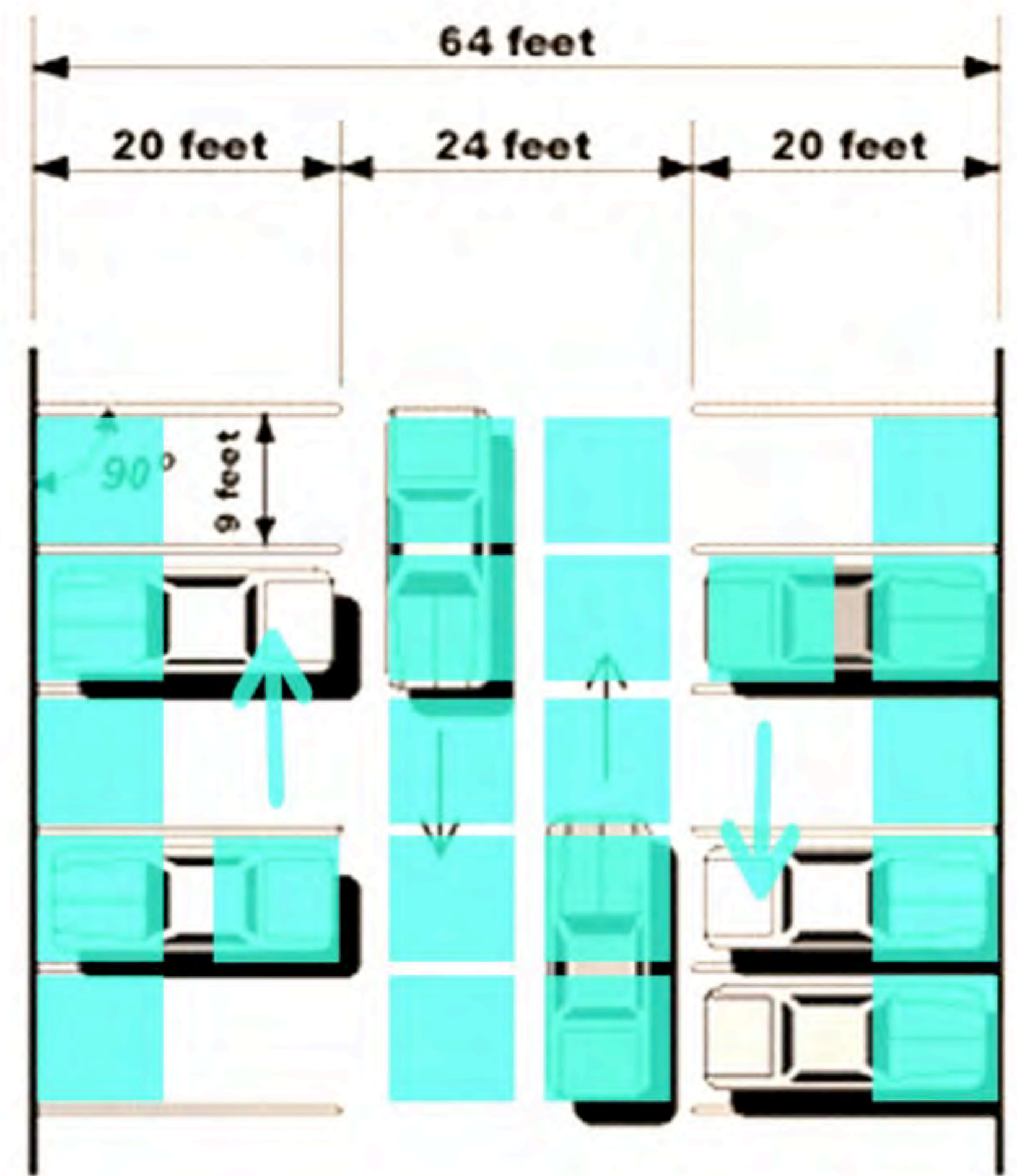
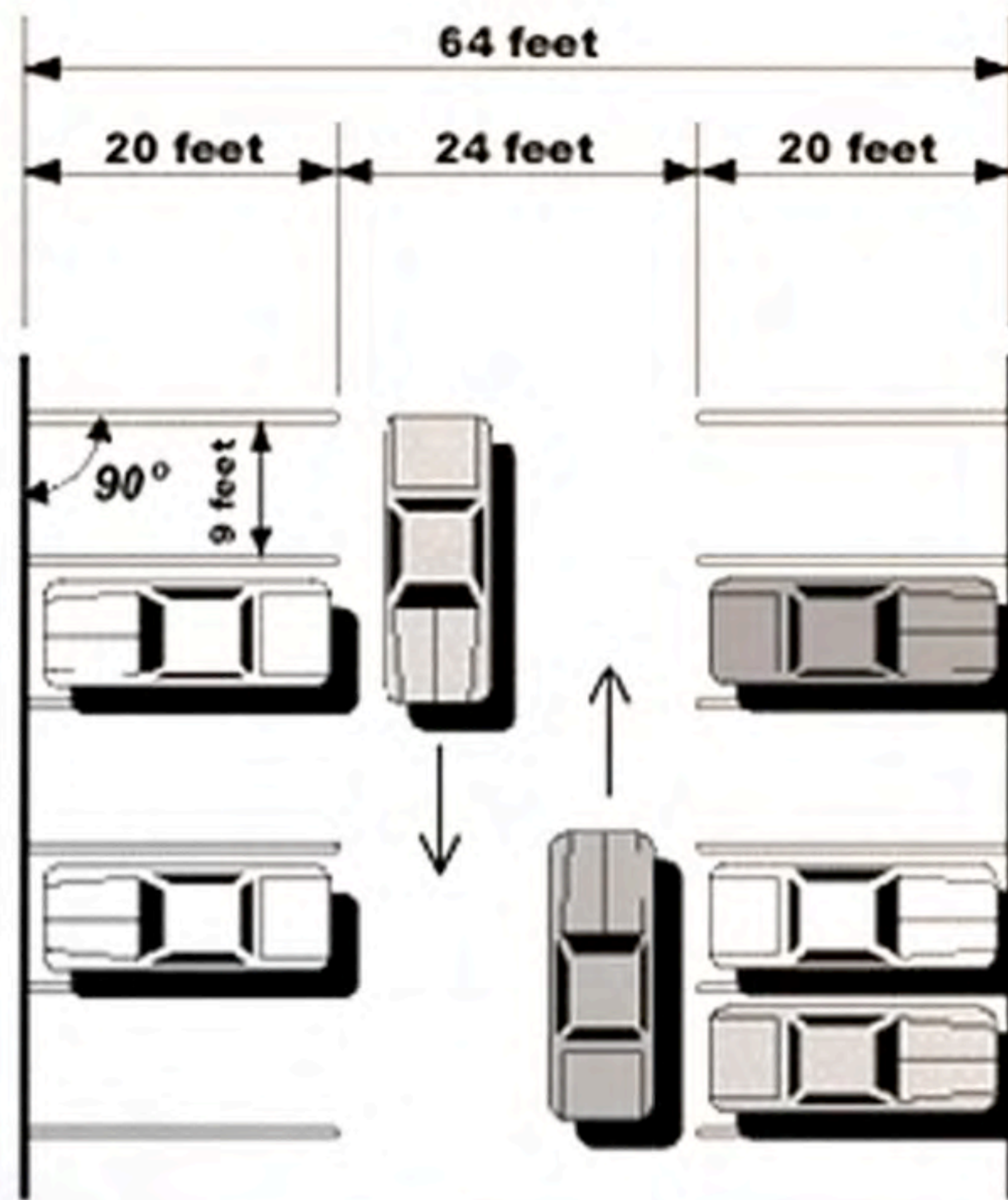


Colin Murach

2011 PACE Sustainable Urban Transport Project – HMI



2010 PACE Sustainable Urban Transport Project – Parking

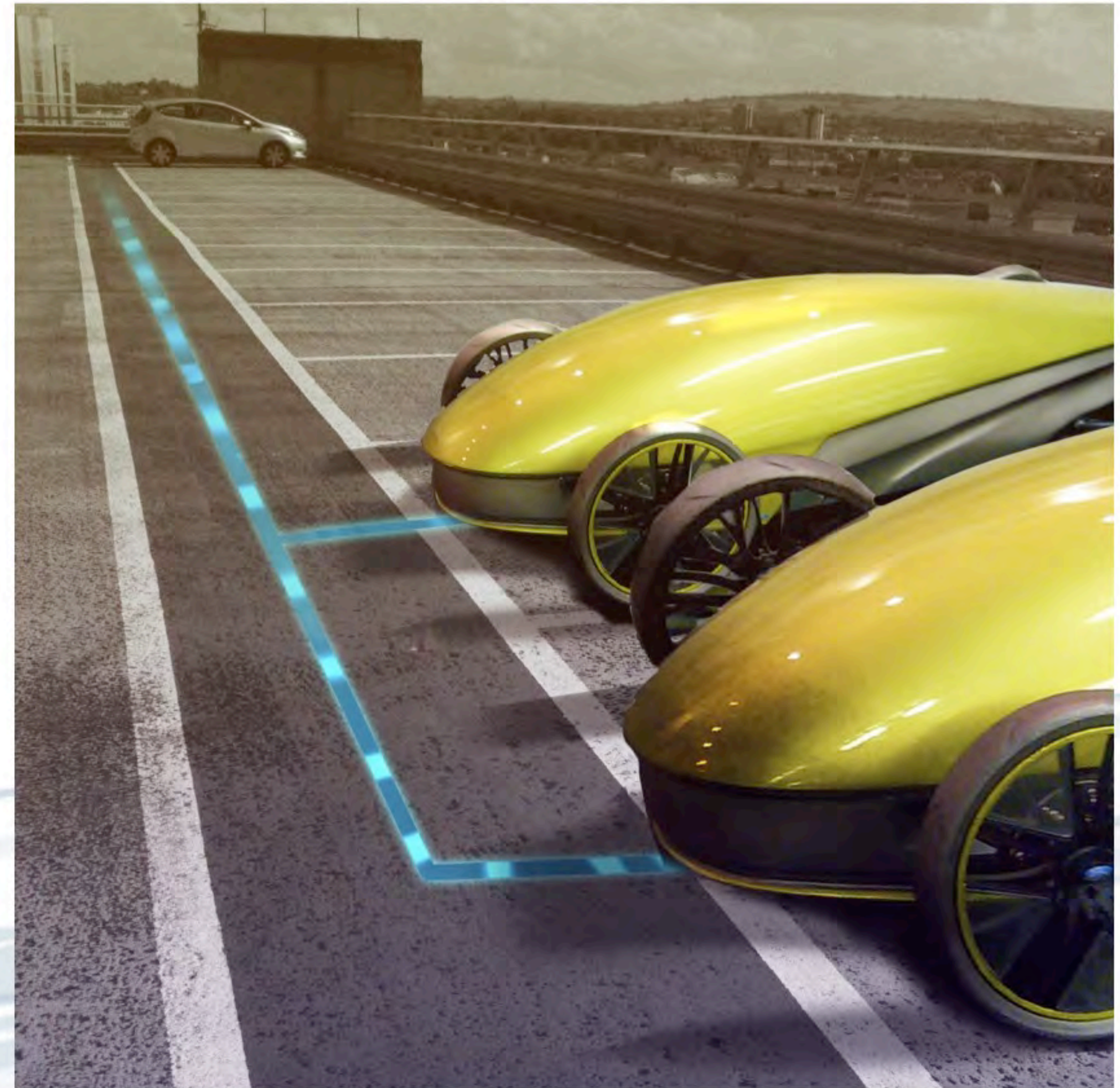


2010 PACE Sustainable Urban Transport Project – Parking

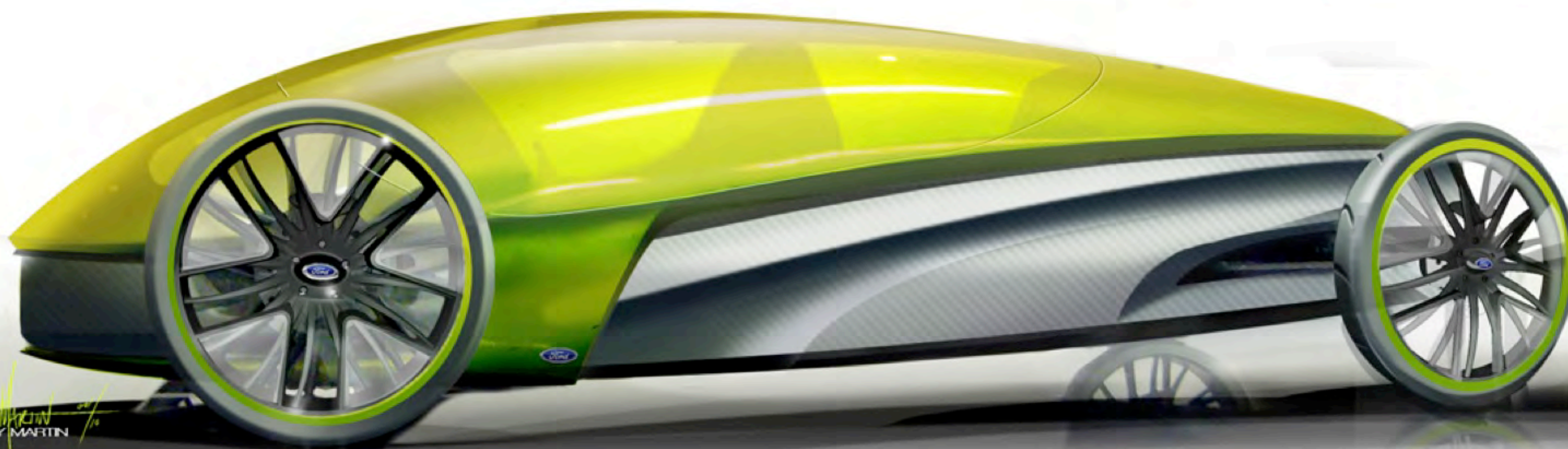


2010 PACE Sustainable Urban Transport Project – Parking

Dynamic E-Parking
Universal Design



Greg Martin



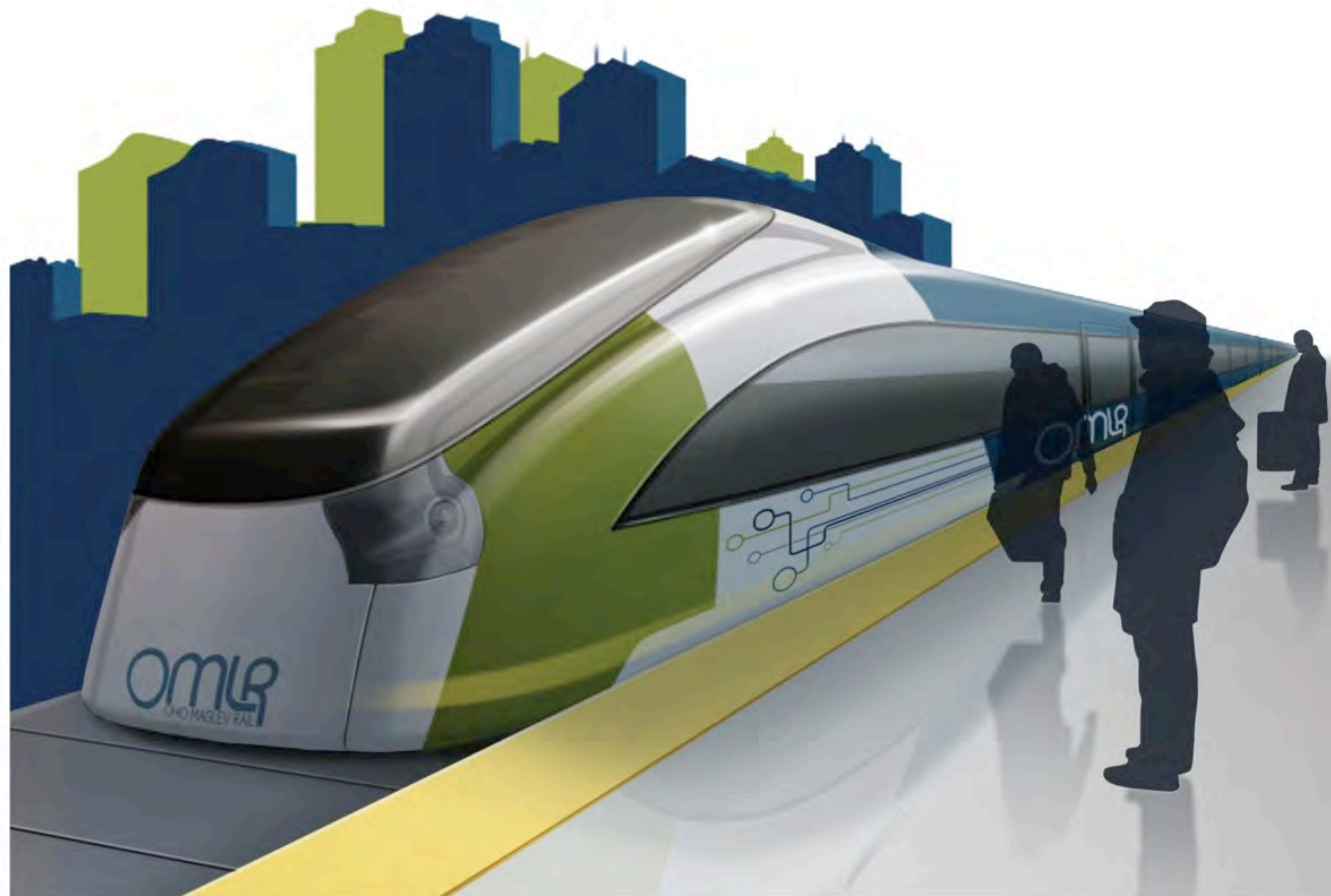
Greg Martin

Alternative Modes of Mobility

Focusing on trains and education



Peter Tabeling



Person



Car

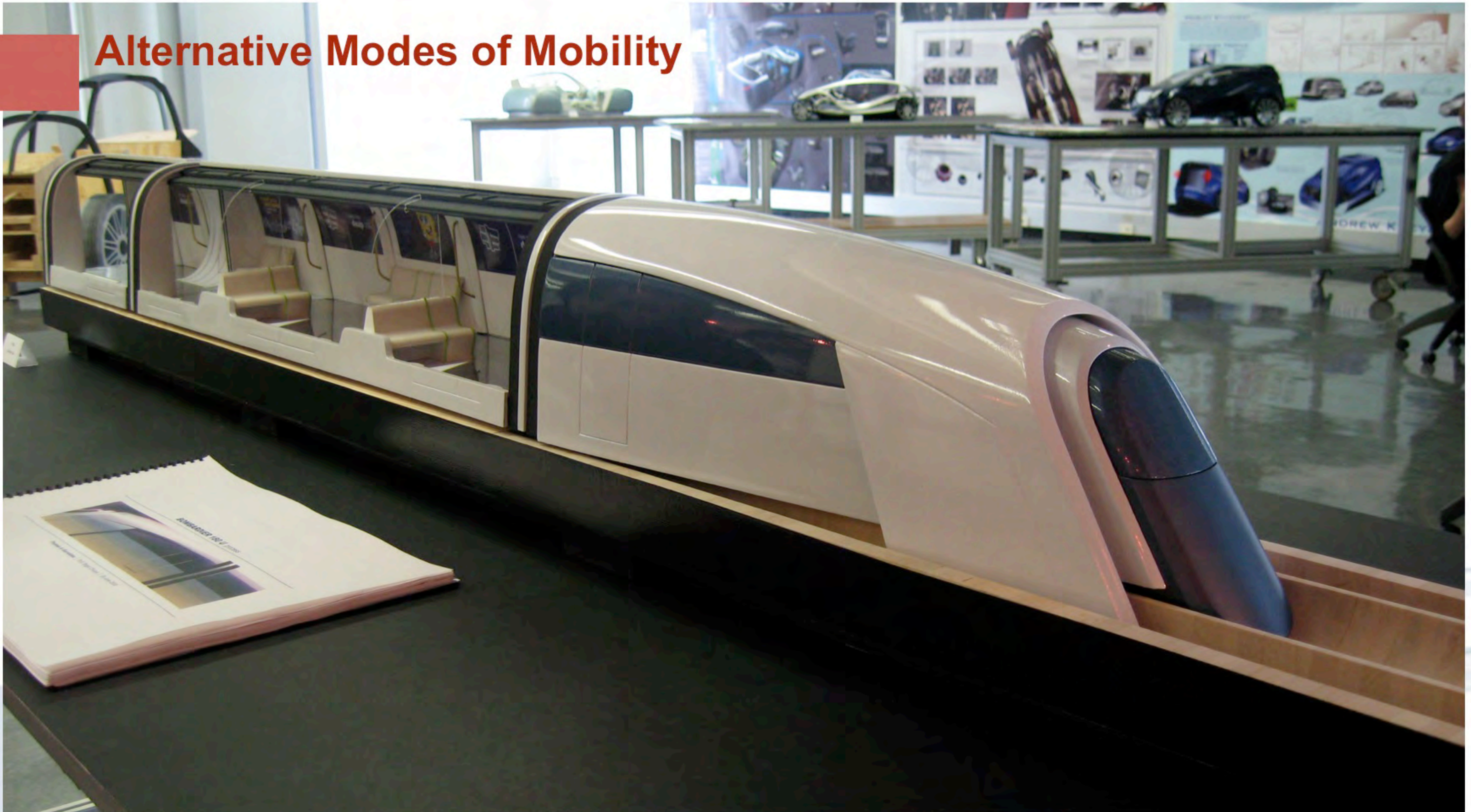


Cargo



Peter Tabeling

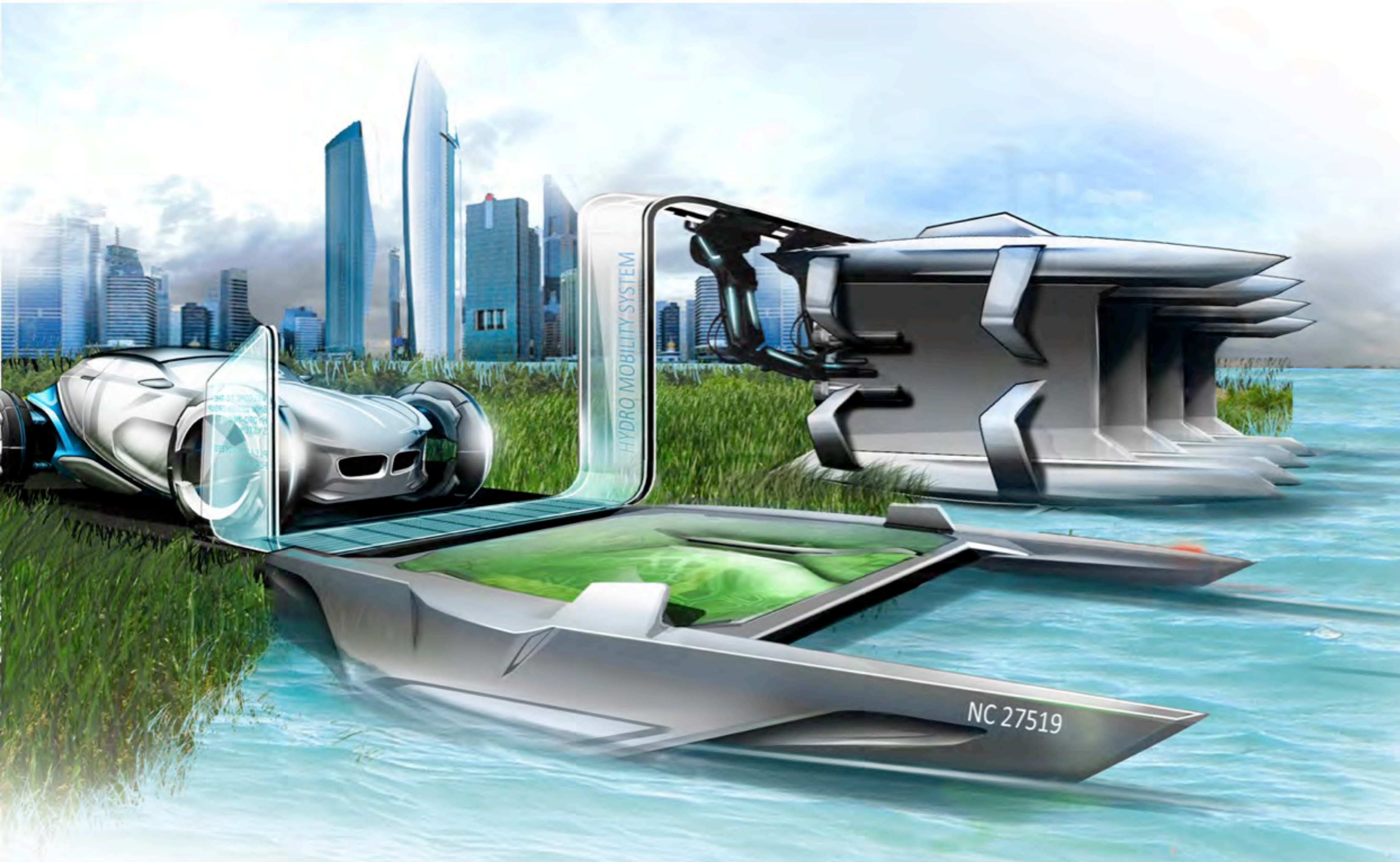
Alternative Modes of Mobility



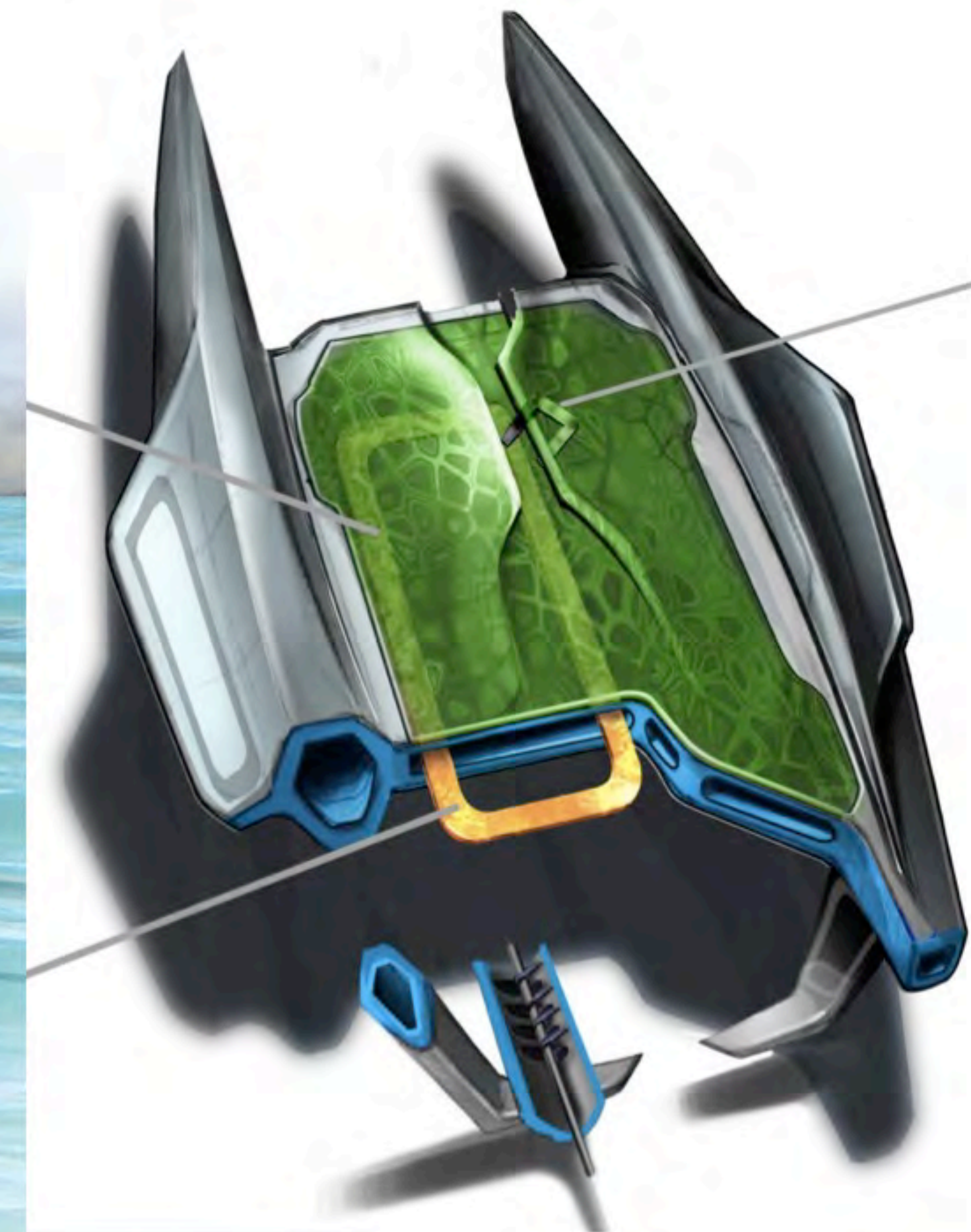
Tom Gernetzke

Present

Alternative Modes of Mobility



Drew Browder



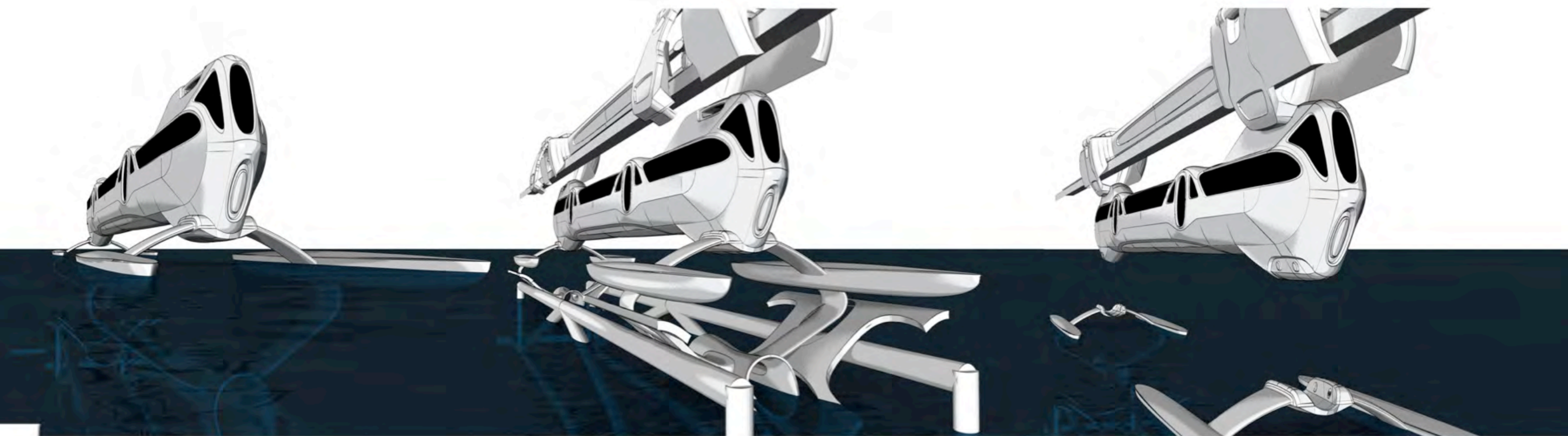
Present

Alternative Modes of Mobility



James Robbins

Present



James Robbins



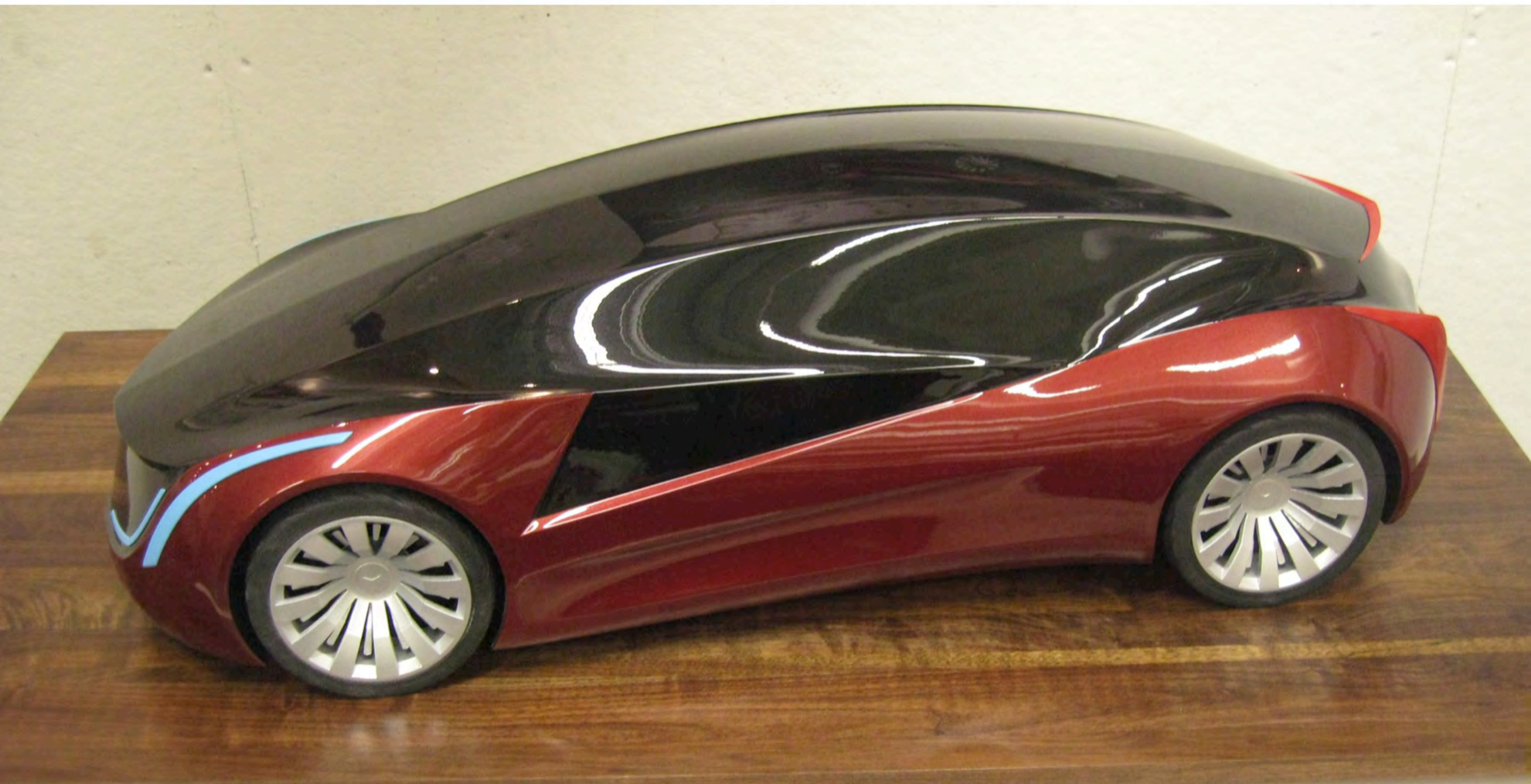
Joshua Henry



Ula
CONCEPT

Joshua Henry

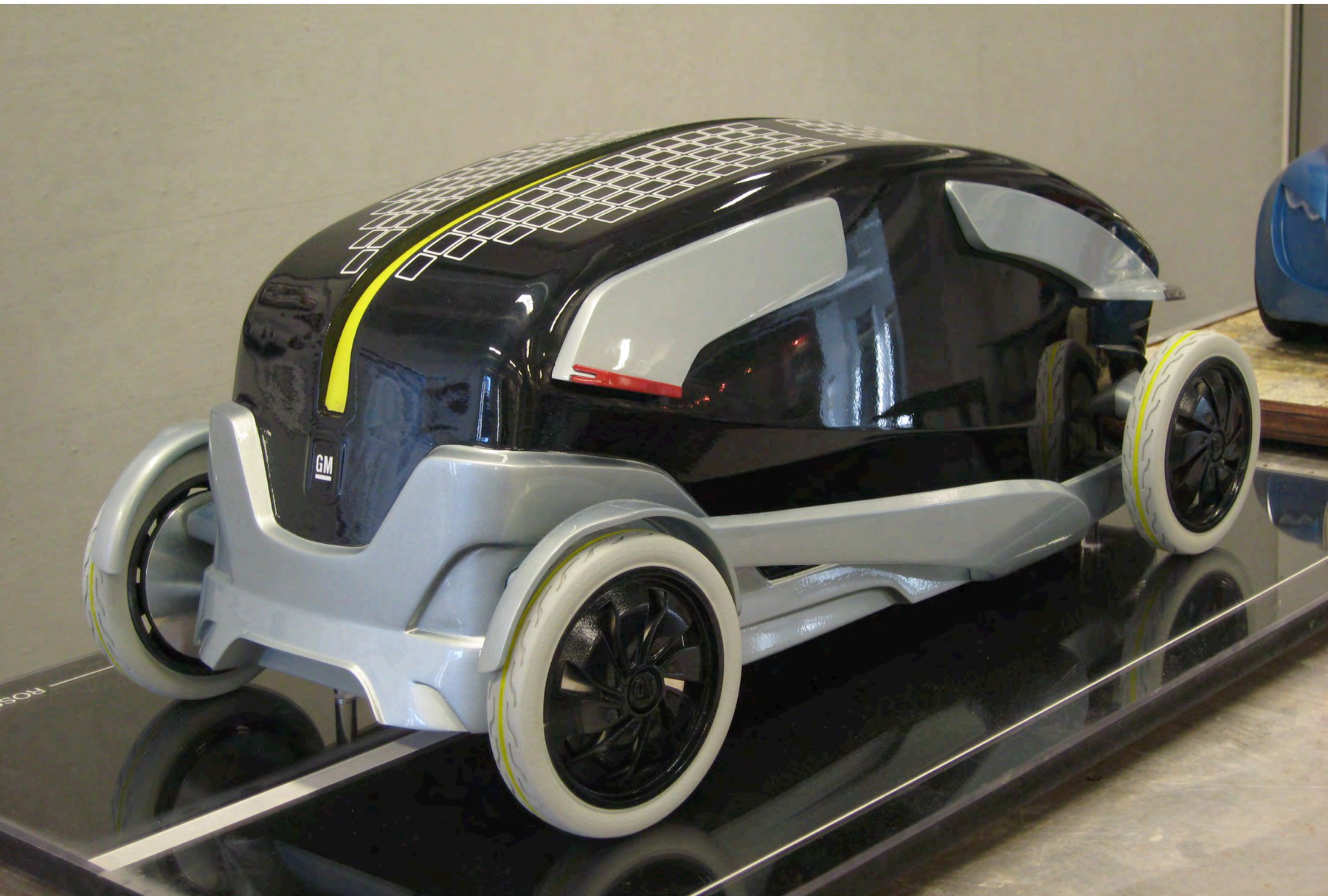




Nick DeConzo

Present







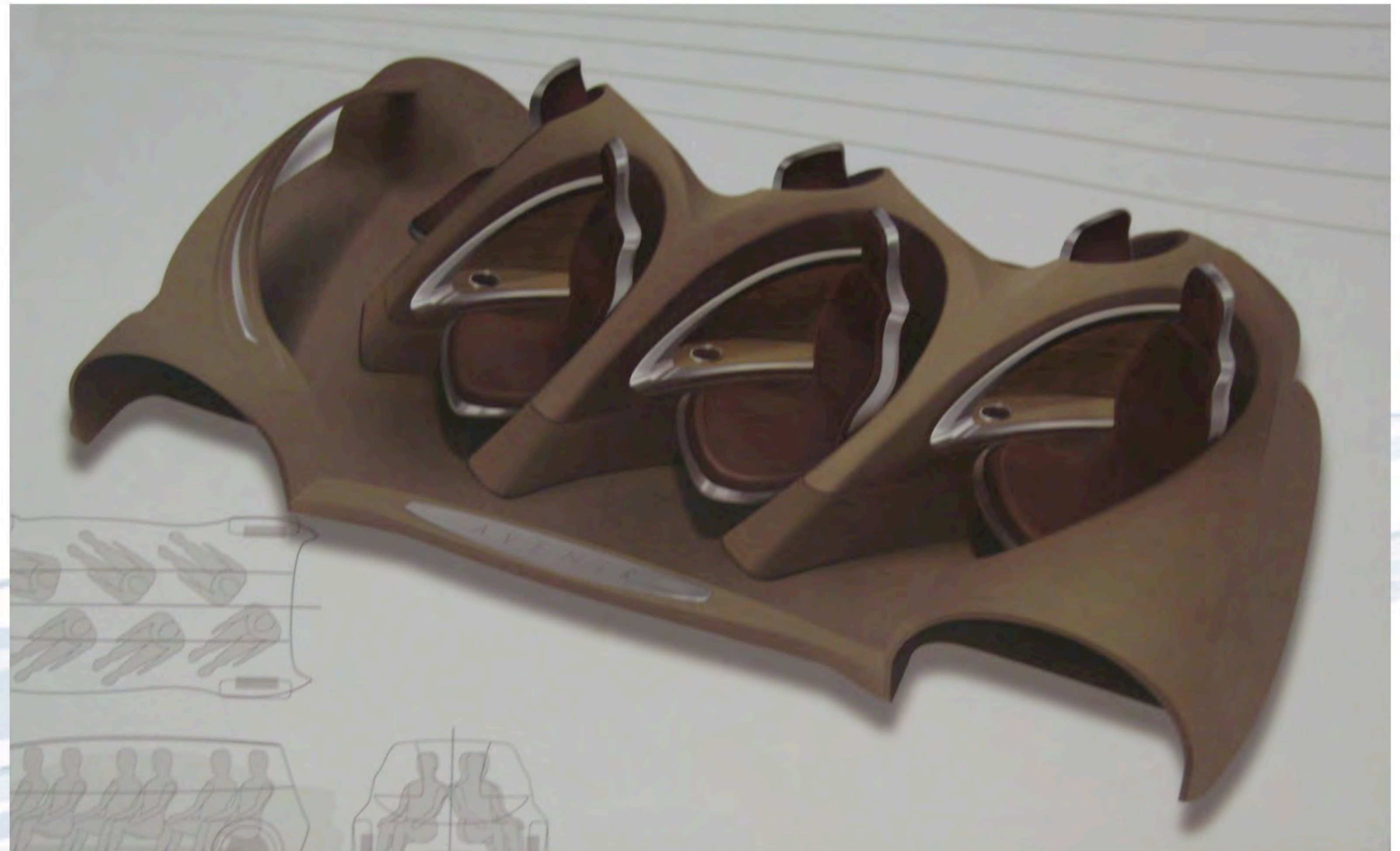
Anna Bechtel



Anna Bechtel







Brandan Oberkircher



Brandan Oberkircher

Present

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Log boom on a river, ca. 1926, from the US Forest Service entry, "Epic of Industry", volume V in "The Pageant of America," published by Yale University from 1925 to 1929.

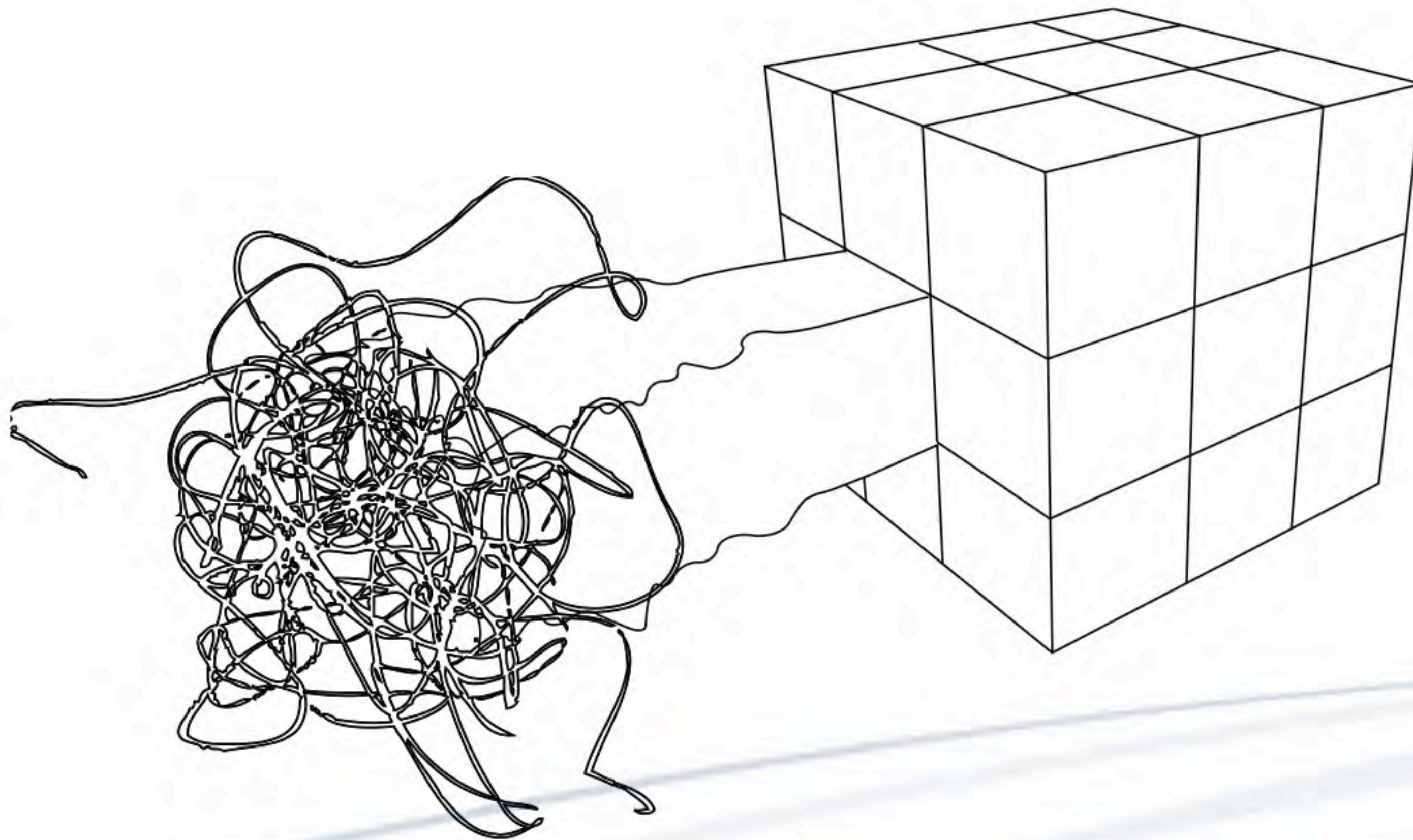


Collaborating and Connecting

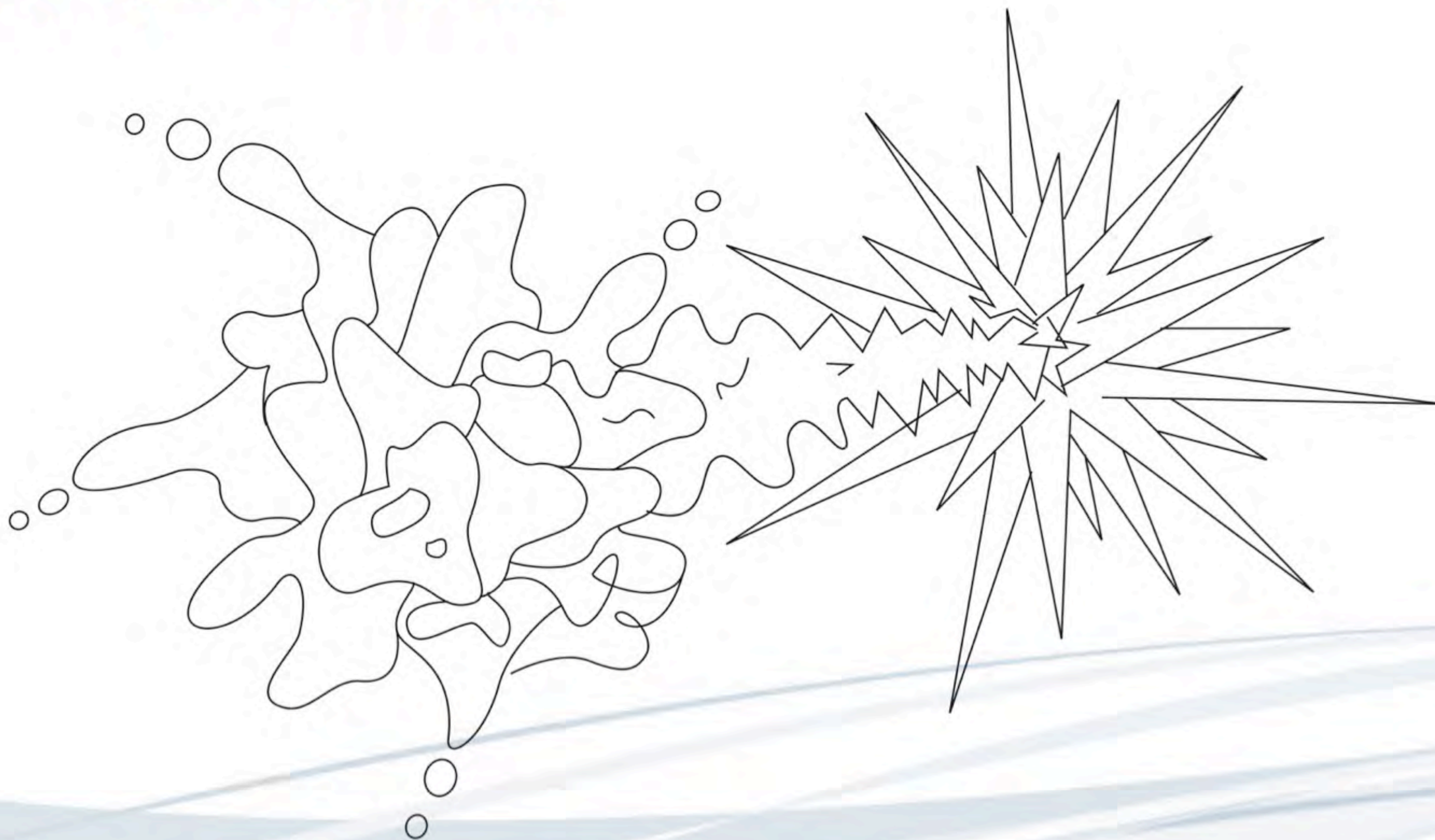




The Hairball and the Cube



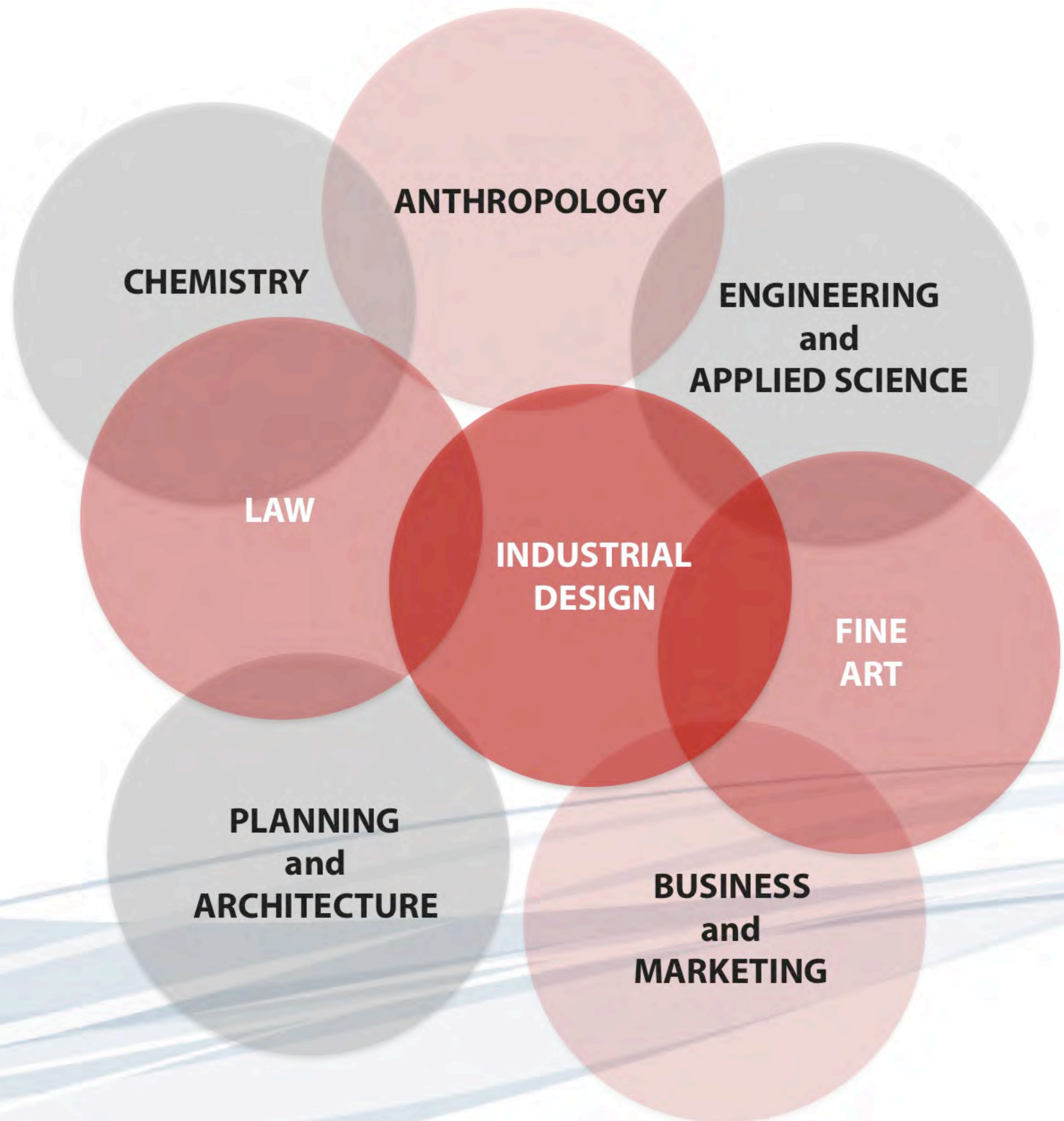
The Gooney and the Prickly



Collaboration Fosters Connections



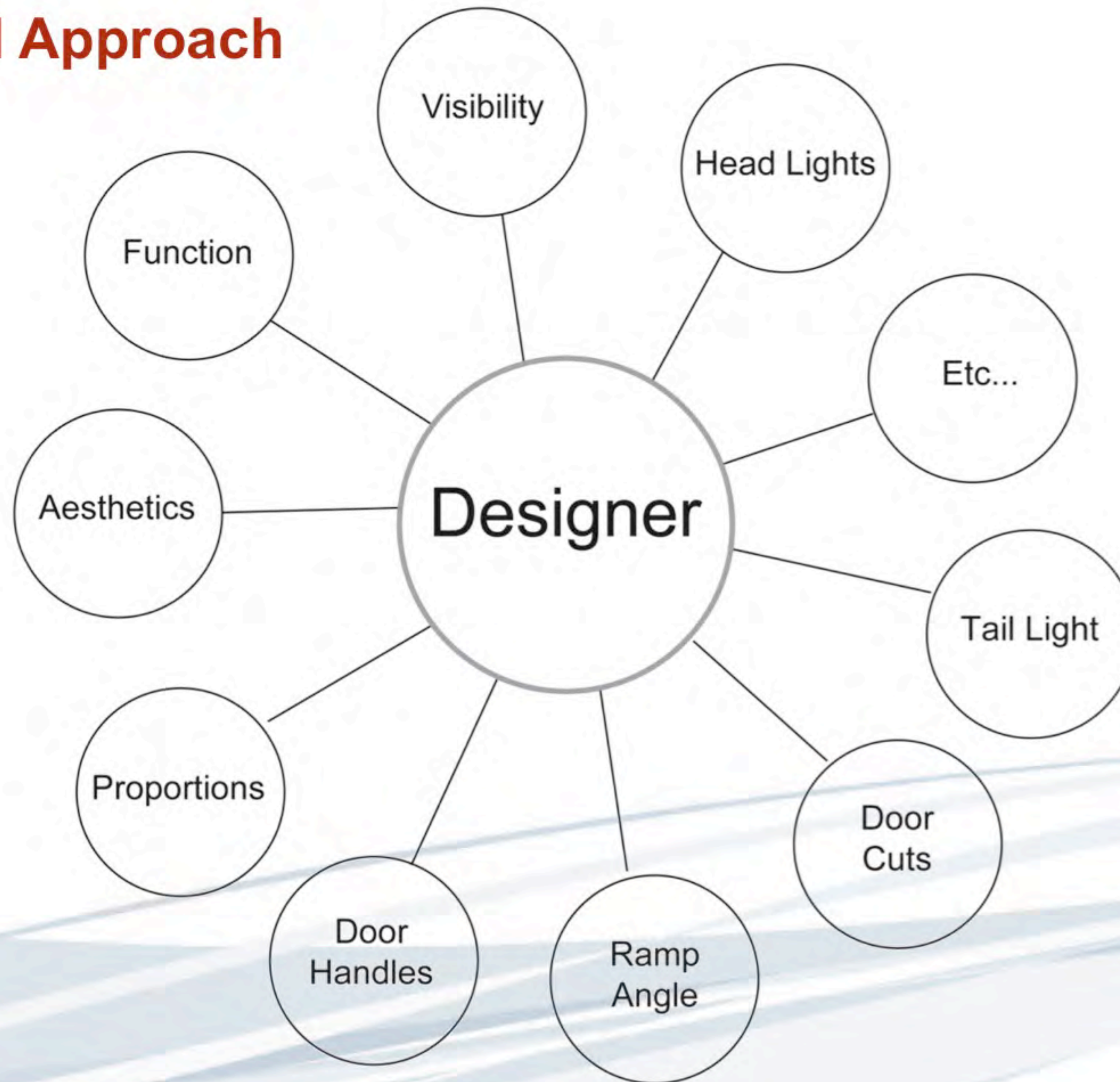
Connecting



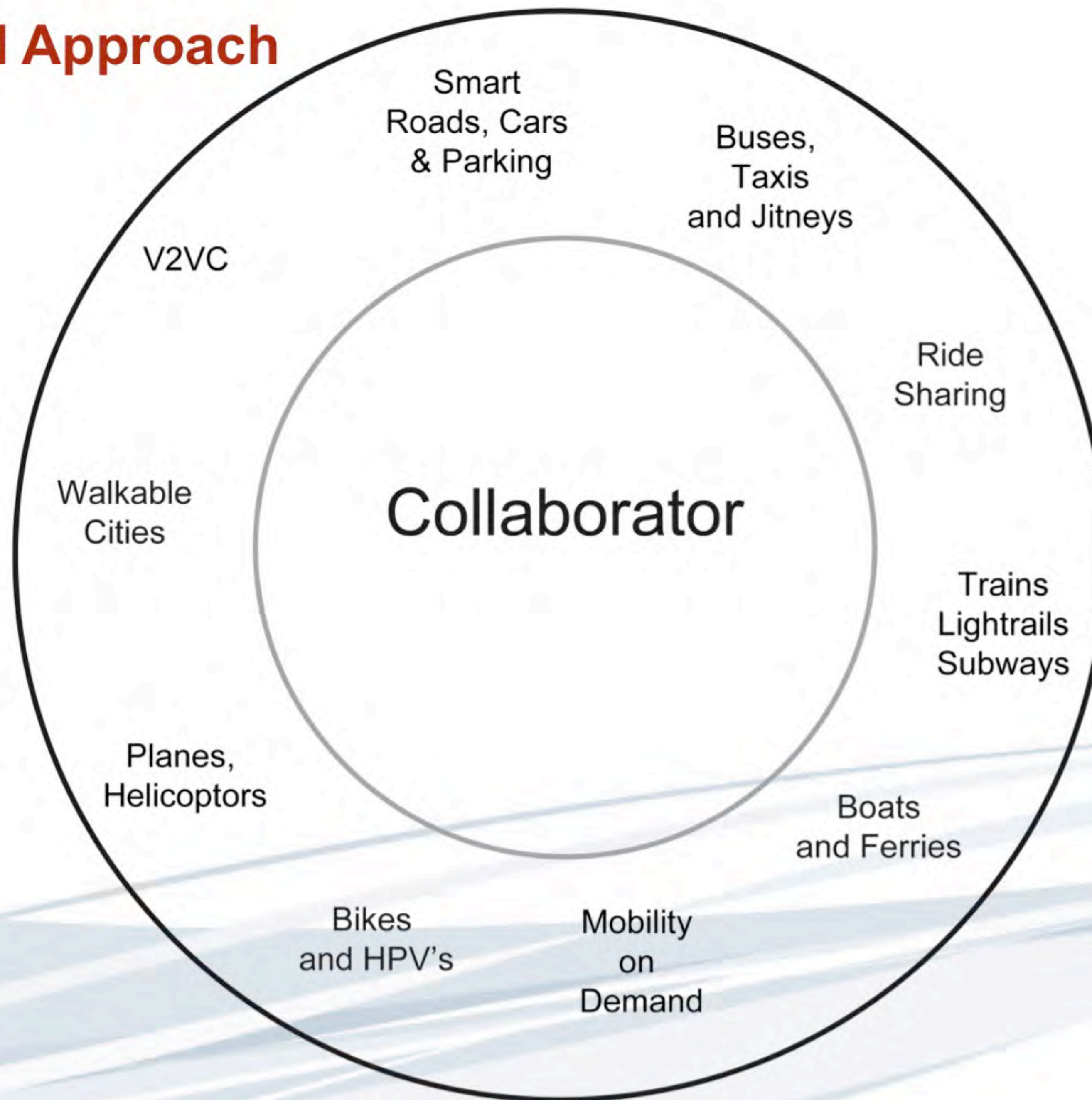
Future



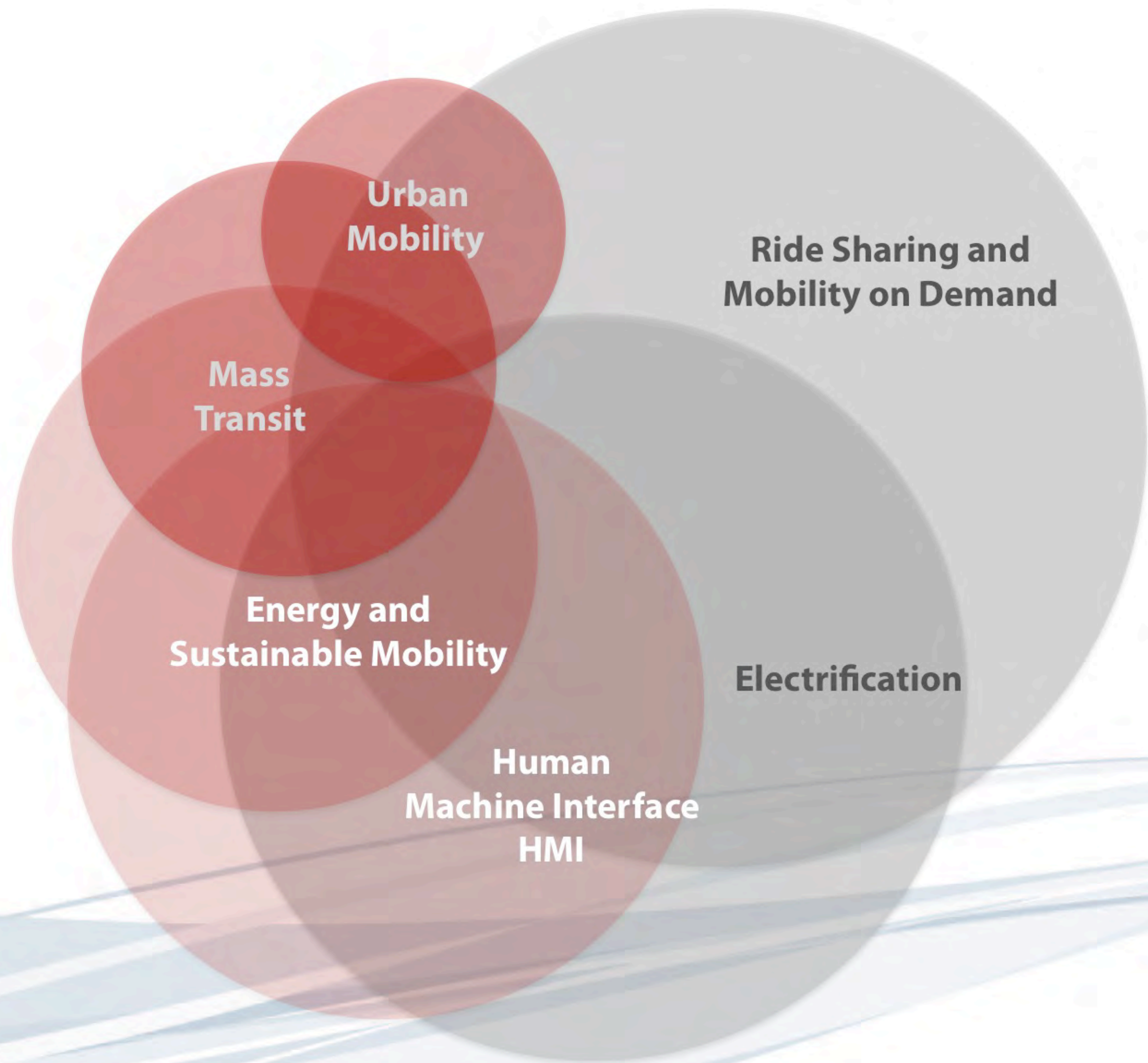
Individual Approach

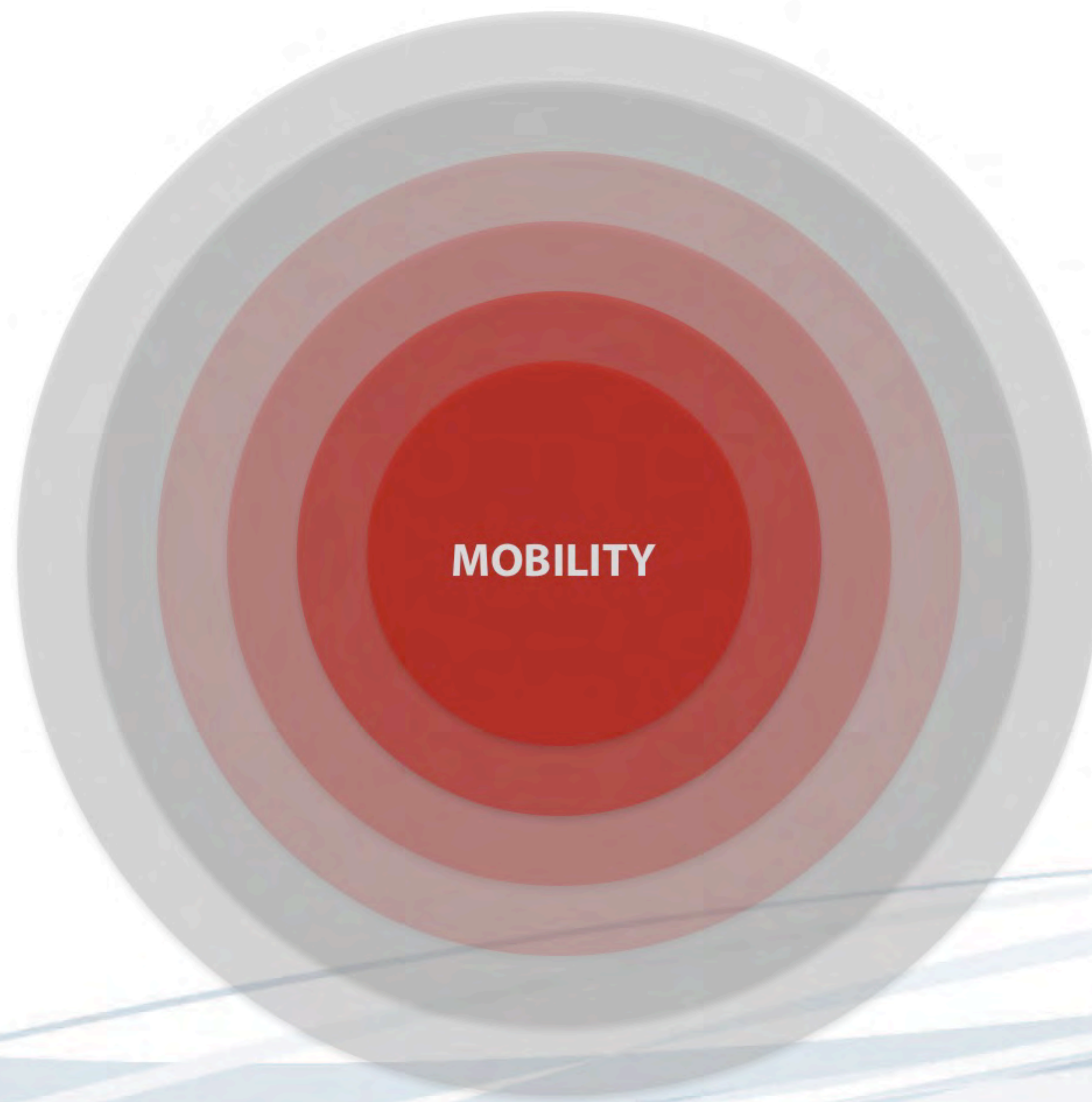


Integrated Approach



Trucks
Midsize Luxury Vehicle
Narrow Lane Vehicles
Compact Cars
Smart Parking
Sustainable Mobility
Construction Equipment
Mid-Sized Heavy Duty Truck
Bus
V2VC
Semi
Scooter
Commuter
Ride Sharing
Amphibious Vehicles
Airplanes
Motorcycle
Near Car
SUV
Submarine
Jet Ski
Vehicle Rental
Urban Mobility
Shipping Goods
Helicopter
Trains
Light Rails
Electrification
Segway
Smart Traffic
Pedestrian Walkways
Bicycle
Trams
Yacht
Mini-Vans
Mobility on Demand
Utility Vehicles
BOATS
Private Jets
Compact Cars
TAXI







INDUSTRY

University
of
Cincinnati

COMMUNITY

INDUSTRY

**University
of
Cincinnati**

COMMUNITY

Future



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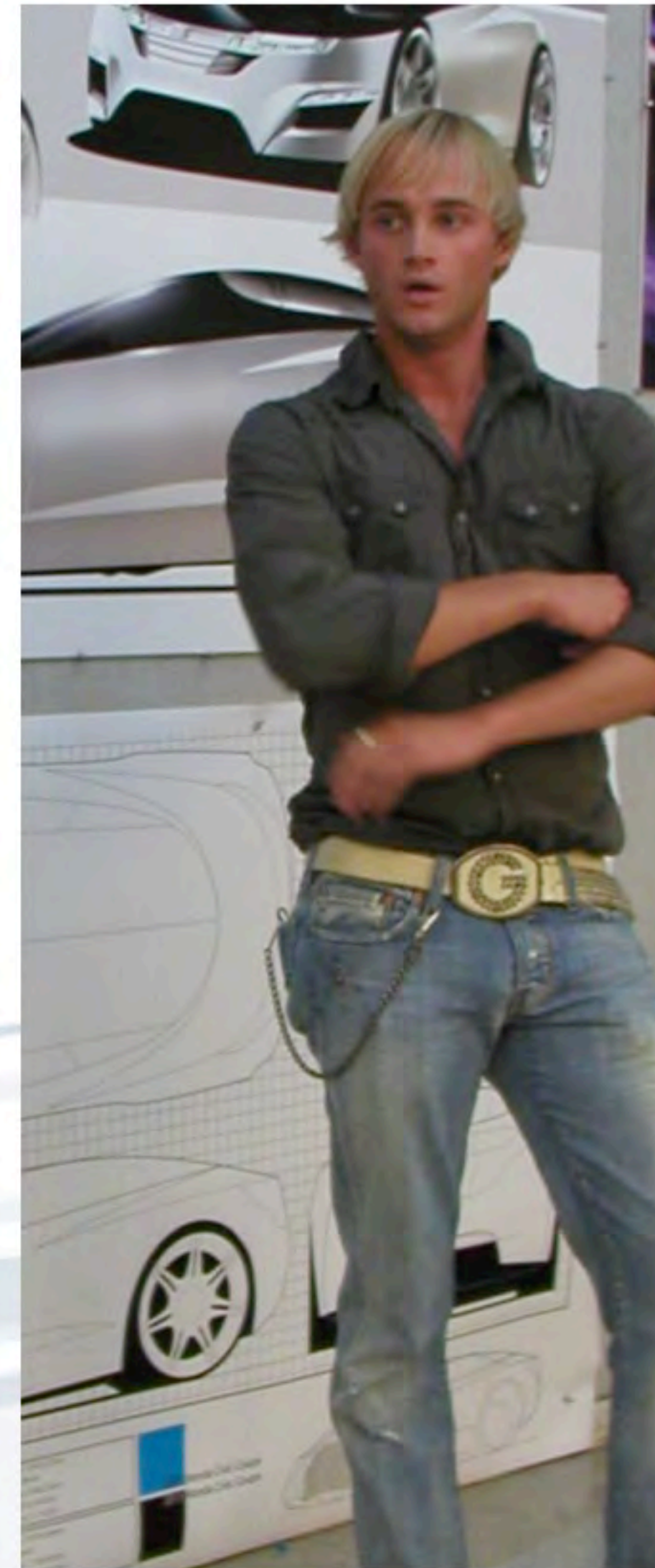
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Industry and UC Alumni



Industry and UC Alumni



Industry and UC Alumni

Tim Anness

Jeff Gale

Khashayar Hanarkhah

Chris Welsh

Kevin George

Steve Gilmore

Kenny Moore

Stuart Shuster

Taki Karras

Keith Fisher

Garrik Zack

Mark Chrapla

Matt Zoller

Nathan Brown

Ben Davidson

Taryn Dyle

Gary Ragel

Robin Krieg

Daniel Sims

Chris Scheterra

Dave Hilton

Clay Mastin

Jonny Wicks

Tom Gernetzke

Luke Yates

Brian Smith

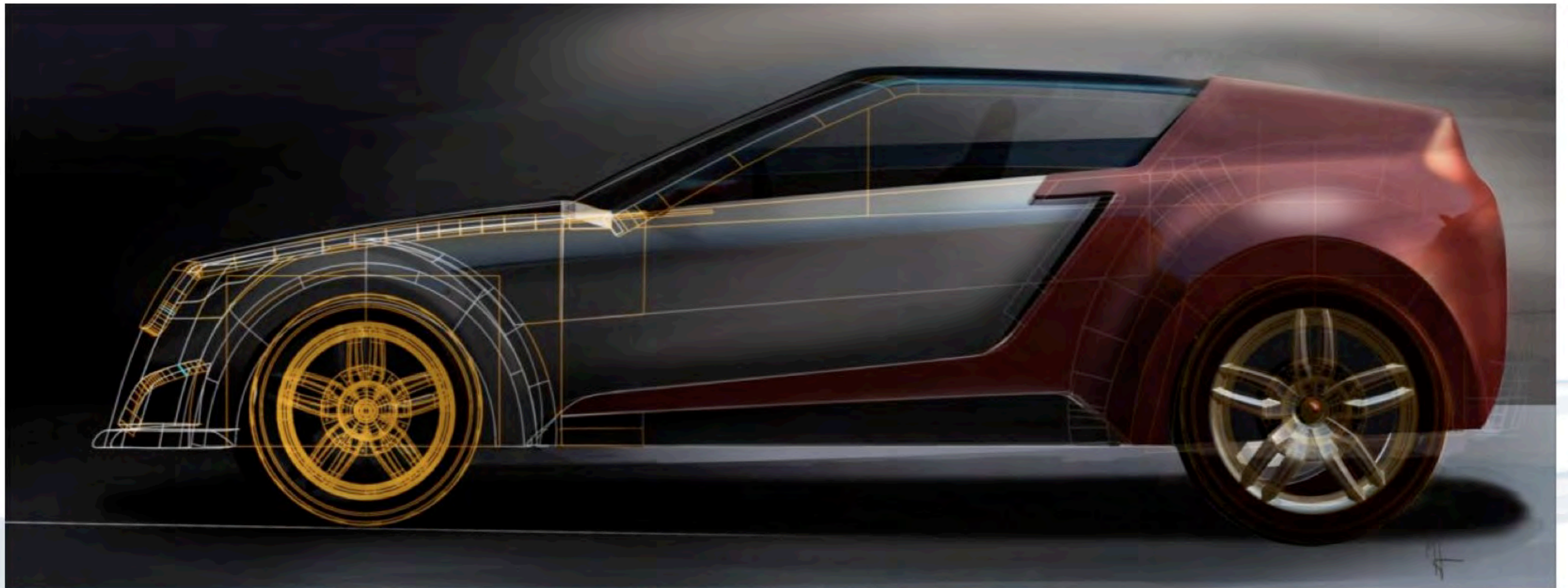
Kurt Wilson



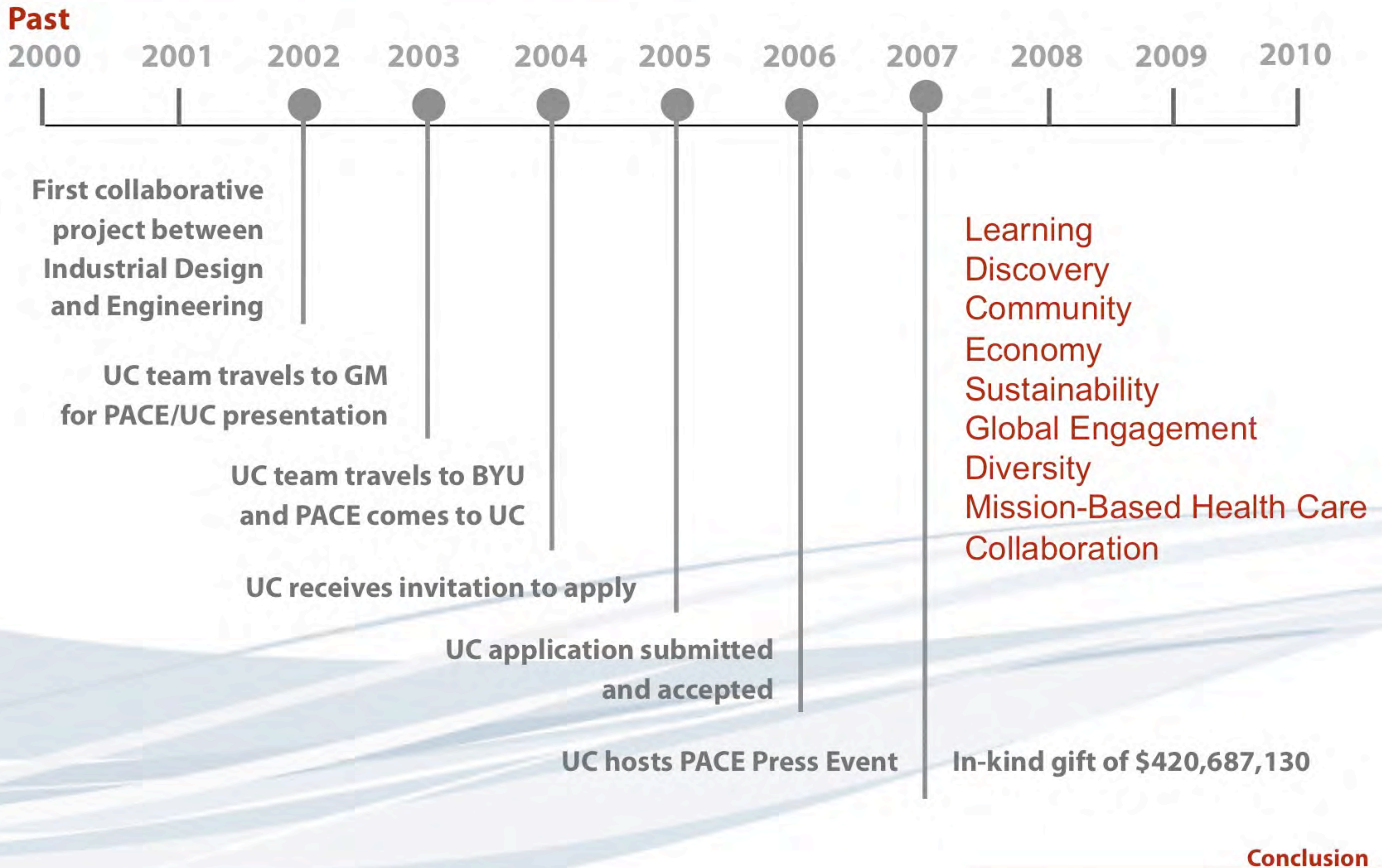


Collaborating and Connecting

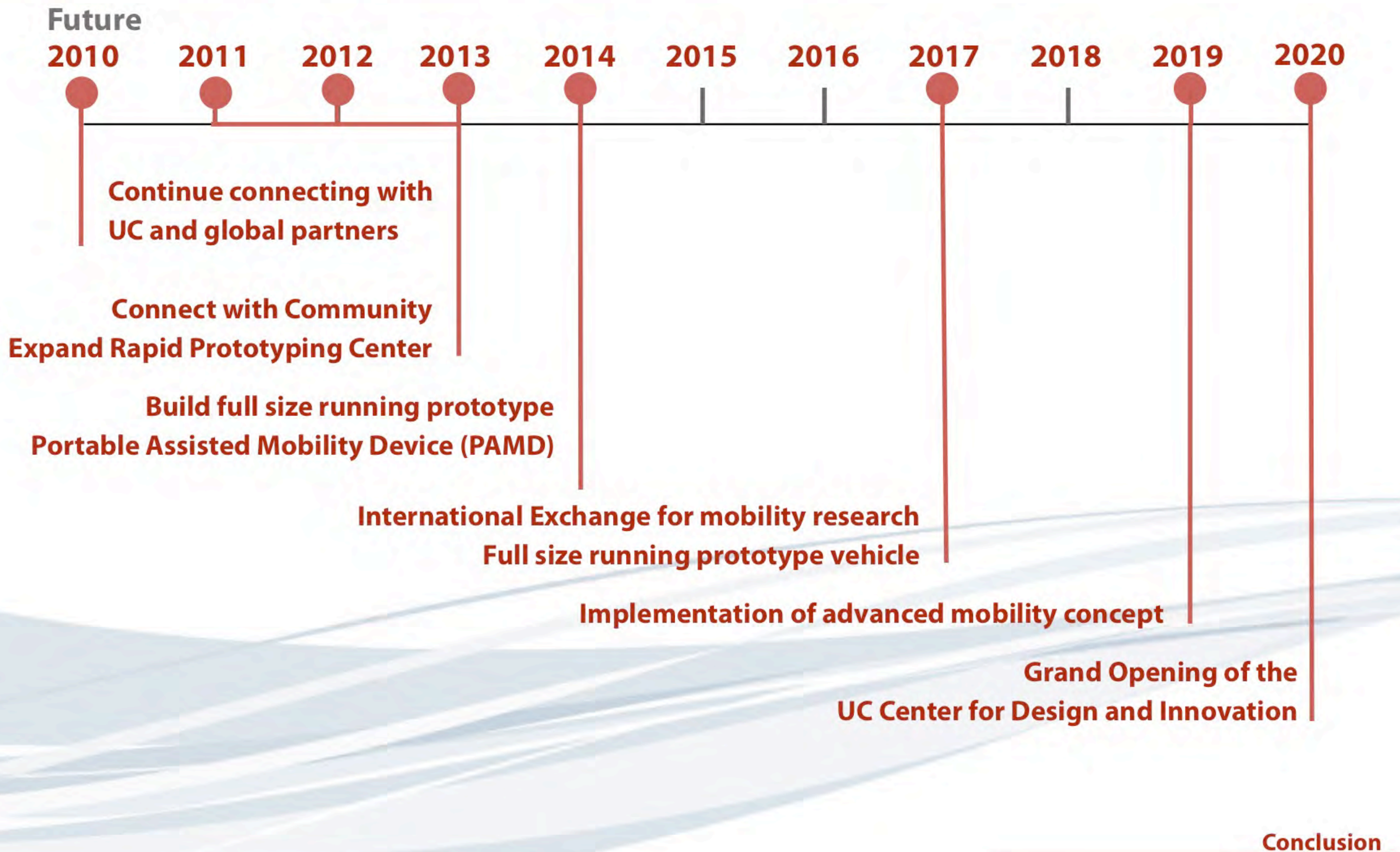




PACE Fit with UC2019 Principles



Vision for UC2019 and Transportation Design



Thank you

