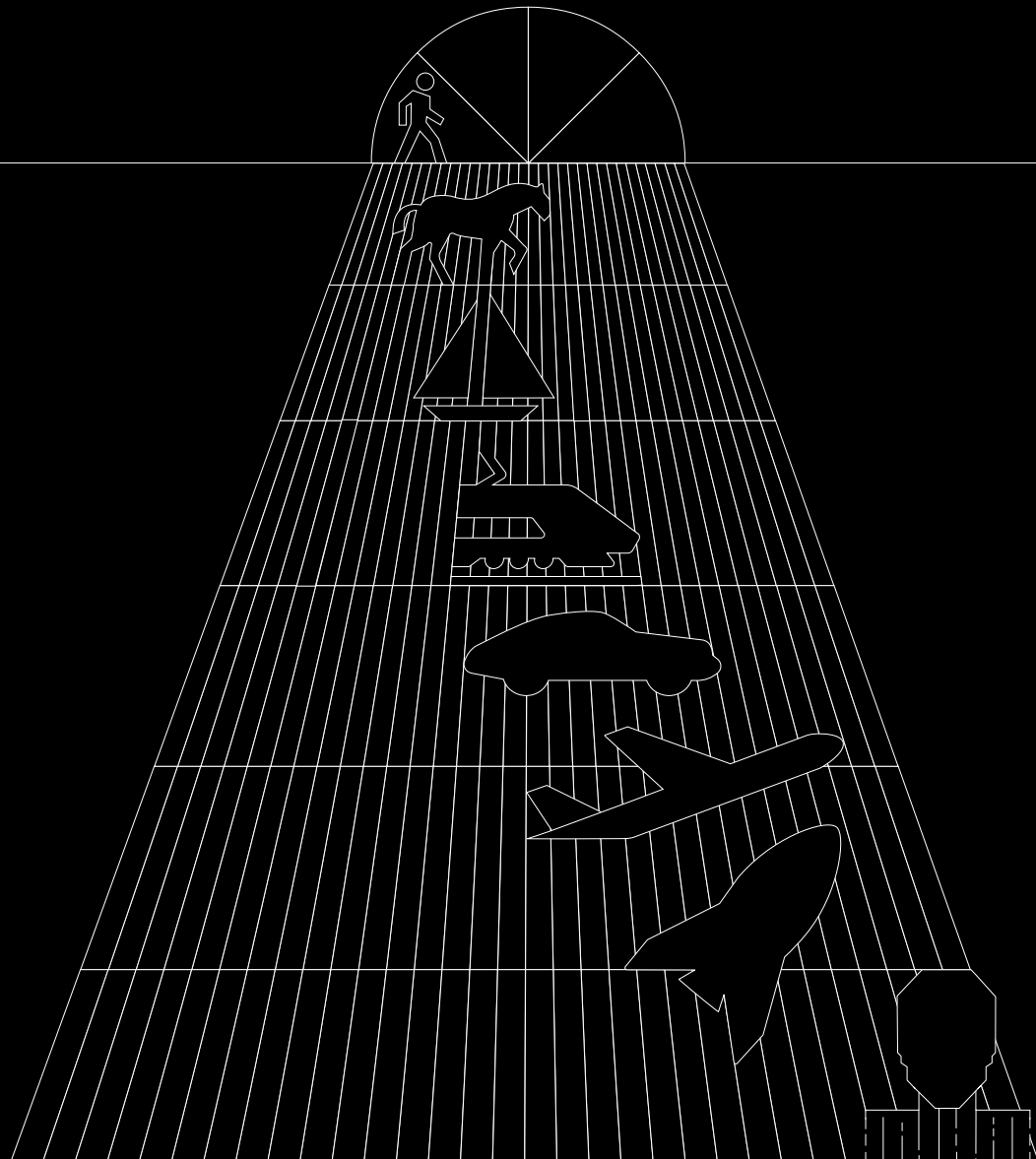


ON THE EVOLUTION OF MOBILITY



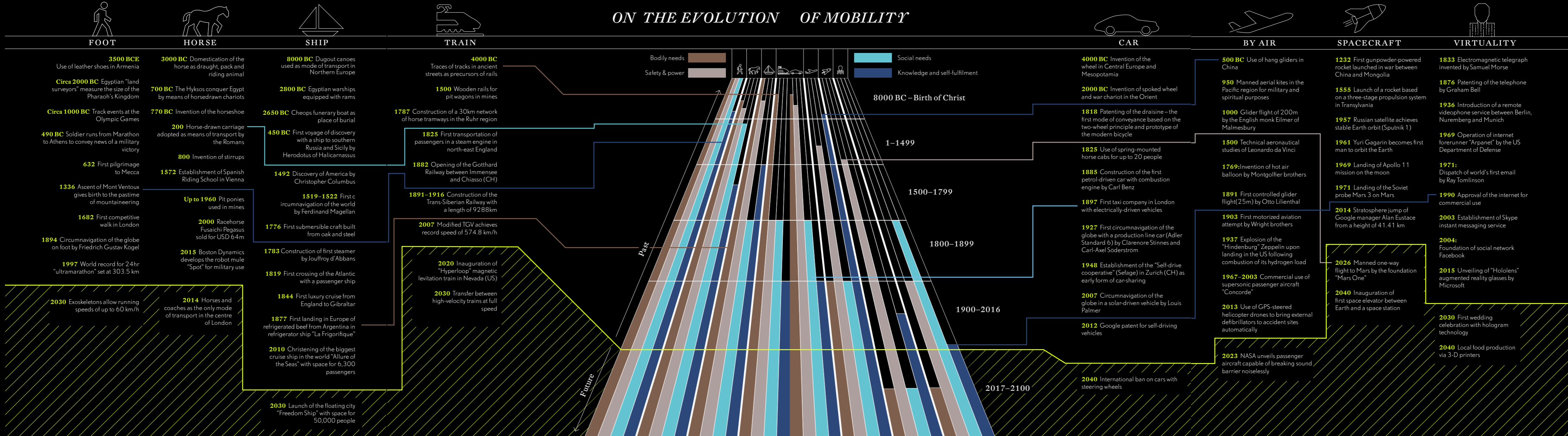
The history of humanity is inextricably linked to mobility. Although people began to live in settlements around 10,000 BC, this did not impact on mobility – on the contrary. They soon supplemented “Shank’s pony” (their feet) with a number of inventions for getting around: dugout canoes in the middle Stone Age, the wheel 6,000 years ago, the hot-air balloon in 1769 and the first landing of a probe on Mars in 2003 are just a few examples. The evolution of mobility is the best testimony to man’s creativity and spirit of inventiveness. A look ahead to the future seems to continue the past trend of technological mobility innovations: self-driving cars, new generations of ultrasonic passenger aircraft, magnetic levitation trains and spaceships for tourism in space are specific goals of the art of engineering – and the dream of beaming people from place to place is also a target. But what drives this process and where could it lead?

A key to a deeper understanding of the evolution of mobility lies in people’s needs, which form the basis for developments of the past and the future. Man’s motivation to get around ranges from the most basic needs to procure food through to spiritual experience – in the Stone Age and also today. The meta map presents both the key and unusual stages in the history of mobility and places them in relation to the underlying needs.

Structured according to the main forms of mobility of the past 10,000 years, the presentation illustrates central findings about the deep structure of mobility:

- 1) Over the course of history, people have had more and more possibilities for satisfying their need to move around. This opens up more options, increases demand and ultimately also the complexity.
- 2) Mobility innovations have been advanced not only by the desire for a secure supply of food and an expansion of the radius of action by means of bellicose interaction, but also by individual needs characterised by a wish for knowledge and personal fulfilment which have advanced shipping and new aviation devices.
- 3) Individual modes of transport have been used over time to satisfy different needs. For instance, boats were first used for hunting, to transport goods, then for military purposes, later as passenger ships and by explorers and sailors circumnavigating the world.

ON THE EVOLUTION OF MOBILITY



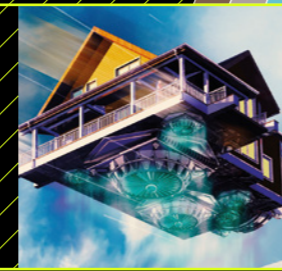
MOBILITY SCENARIOS FOR THE FUTURE



#1 | NIGHT TRAIN TO TOKYO
High speed trips make the world a village
→ p. 18



#2 | FREEDOM PARK FOR V12
Combustion engines and self-driving become an exclusive pastime
→ p. 26



#3 | THE NOMADS OF THE 21st CENTURY
Places of residence will be linked to workplaces
→ p. 34



#4 | SEA OF DATA FOR DIGITAL FREIGHT
3-D printers replace physical logistics
→ p. 46



#5 | LEISURE TIME THROUGH ALGORITHMS
Autonomous vehicles open up new time windows
→ p. 52



#6 | TRANSFORMERS IN MULTIMODE
Systemic mobility is based on changeable vehicles
→ p. 62



#7 | MY CAR IS MY CASTLE
Entering the age of customised vehicles
→ p. 72



#8 | LIVING ON FIJI
Virtual communication makes autarchic ways of life possible
→ p. 84

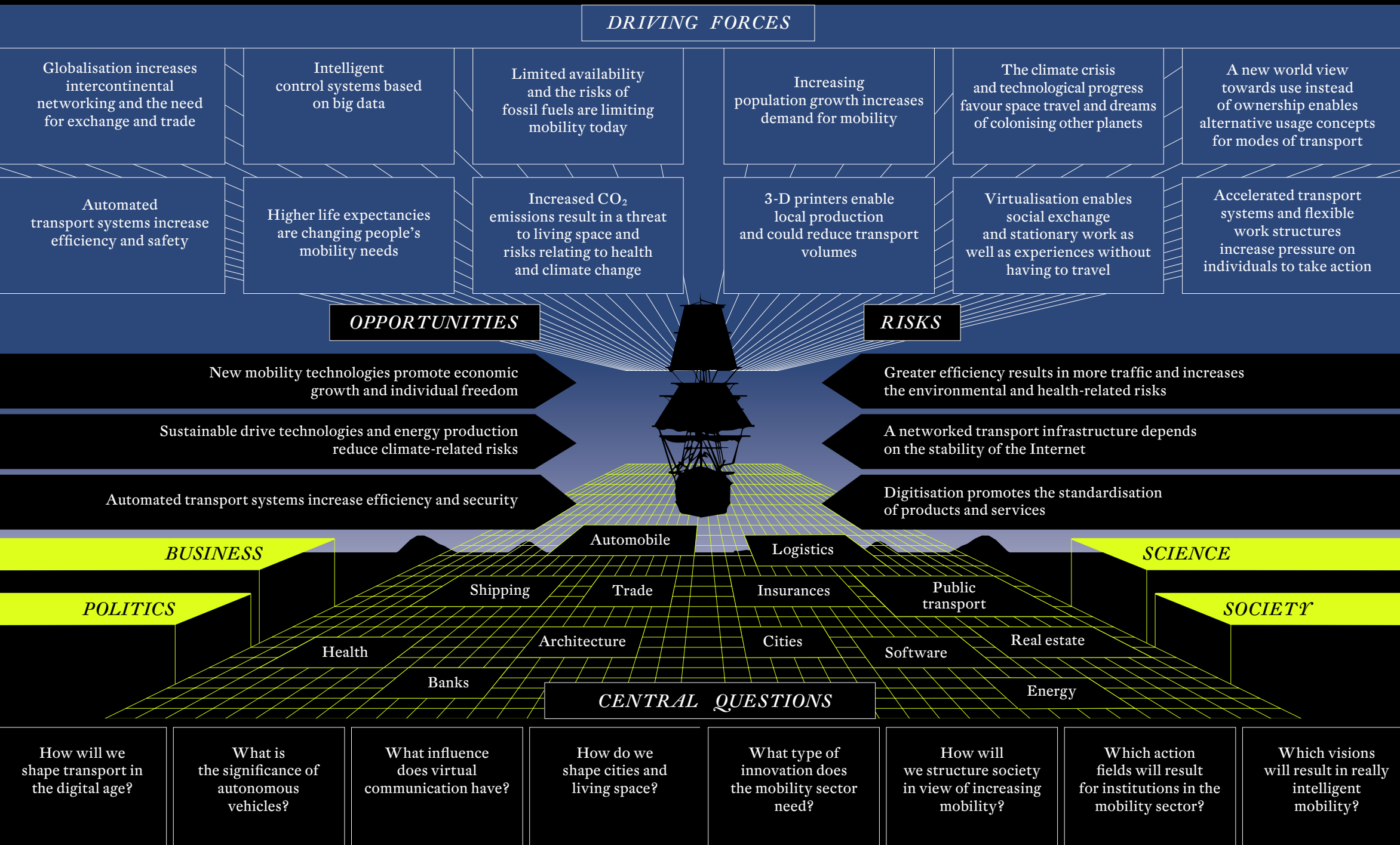


#9 | THE NEXT MIGRATION OF PEOPLES
Conquering the interstellar space takes the pressure off earth
→ p. 96

POINT OF DEPARTURE

Mobility is undergoing a transformation. The market is characterised by various forces of change that lead to specific opportunities or new challenges. At the heart of this change are traditional providers such as car manufacturers or operators of public transport systems. In

addition, mobility comprises many more sectors and public-sector tasks from healthcare to provision of foodstuffs, and from city planning through to the energy supply, which – against the backdrop of the new developments – raise fundamental questions.



OVERVIEW OF RESULTS

On the basis of discussions with experts as well as essays, research and findings drawn from the literature, five over-arching theses can be derived which – from the point of view of W.I.R.E. – characterise the future of mobility. This in turn results in fields of action for companies and public

institutions dealing with the future trends in the mobility sector. Finally, the last section of this chapter includes a short selection of specific, future-oriented ideas which arose during the work on this book.

THESES FOR INTELLIGENT MOBILITY

MOBILITY WILL BECOME AN ECOSYSTEM #1
The prerequisite is a comprehensive understanding of user behaviour

#4 *MOBILITY WILL BECOME FUNCTIONALISED*
Added value for users and design will become the key differentiation factors

AUTONOMOUS VEHICLES ARE REDEFINING THE JOURNEY #2
Relinquishing responsibility requires more time than expected

#5 *TRAFFIC PLANNING WILL BECOME SPATIAL PLANNING*
Rethinking the infrastructure of smart cities

ACCESS WILL REPLACE MOBILITY #3
Physical exchange will remain relevant

#6 *IMMOBILITY WILL BECOME A LUXURY*
Innovation comprises the link between modes of transport and spatial planning and society

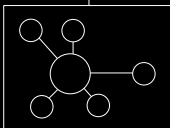
ACTION FIELDS

ENCOURAGE IMAGINATION AND EARLY DETECTION

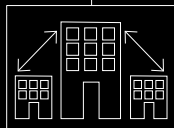
GEAR INNOVATION TO PEOPLE

DEVELOP A DATA CULTURE

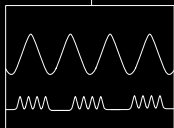
DARE TO EXPERIMENT



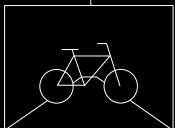
#1



#2



#3



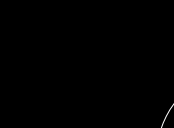
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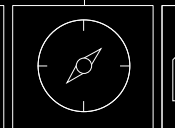
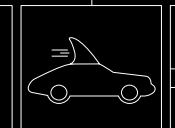
#6



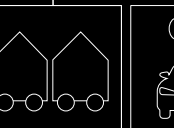
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#11