

Expectation
promise and misunderstanding

Neil Bates
Creative Design

who we are and what we do





Chiltern Railways



customer

train builder

operator

this paper looks at the expectation
in rail vehicle design
from three different viewpoints

how can their different expectations be reconciled?

safety

reliability

commerciality

Rail vehicle design is a peculiar design discipline
which seeks to reconcile customer expectation
with other important values

rail - like any other business
has to add real value for its customers

expectation

wants

needs

Companies which use design much more strategically add real value and significantly benefit from the 'halo' effect this approach brings to their business

successful companies identify what their customers want rather than what they need

'From a customer point of view, railways vehicles may be seen as analogue not digital'

most new technologies on trains are not part of the customers travel experience



And the reasons, behind this apparent lack of similar product development in transport products?

the customer is not fully engaged in the design process
and train manufacturers are not truly customer-led

too
impersonal

mechanical

too functional

Design is a business, which involves change
and railways are generally conservative
with respect to change

railways are a safety driven culture
which fails to appreciate that customers take safety for granted
and expect their train to deliver basic levels of service

individual

integrated

personal space

Customer satisfaction criteria identify values
which customers believe are important

an improved 'human' experience of travel
is the real design challenge

Individual values

desirable space

exceed expectation

Although the train is designed as a public environment - the customer continues to ask for personal space

train builder's and rail operators design with a different set of values, their main motivations are seat numbers

How can these different interpretations of expectation be reconciled?

- Economics + Aspiration
- Customer Perception + Aspiration
- Operation + Commercial Demands
- Engineering + Manufacturing Requirements

these are not mutually exclusive values

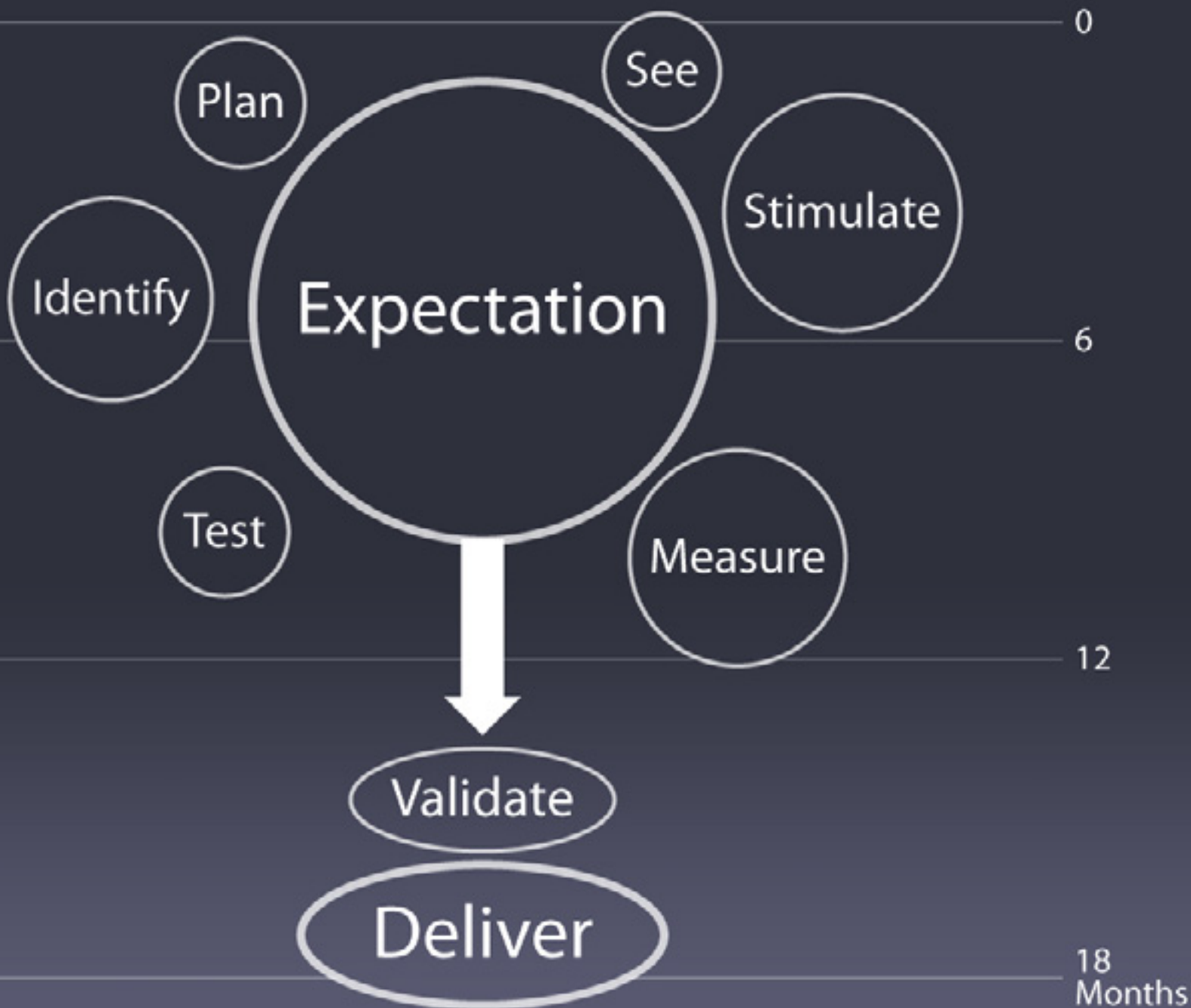
User expectation, technology, good design and commercial reality can all be delivered if the advance-work is of the highest standard

- The ITT should be customer led and simply defined
- Deliverables from good partners with key suppliers - proven through off-line, advance engineering
- Timescales should be plausible

if advance work is well planned, well integrated and starts in good time, the design process can deliver significant benefits improving cost, timescale and quality

'Putting it simply
the industry needs to spend more time
planning and less time building'

planning a project around customer values does not mean
additional work it is simply work undertaken earlier in the process
which may be more cost-effective + more productive



when customer 'needs' are established
feedback should be undertaken at regular
intervals throughout the design process

design is an important means of differentiation

Only one manufacturer can be cheapest

Others have to be competitive, using other values to differentiate their product or service

who wants to be the cheapest?

An ideal project structure will vary from project to project but in principle will involve three distinct phases

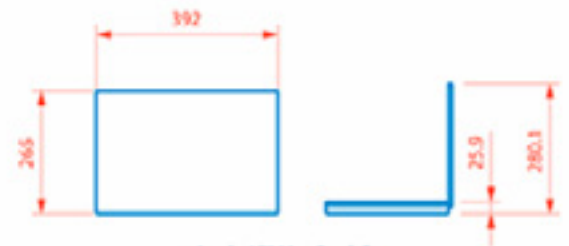
- Design and research based on customer knowledge
- Design definition proven through advance engineering
- Implementation

design freeze at end of design definition

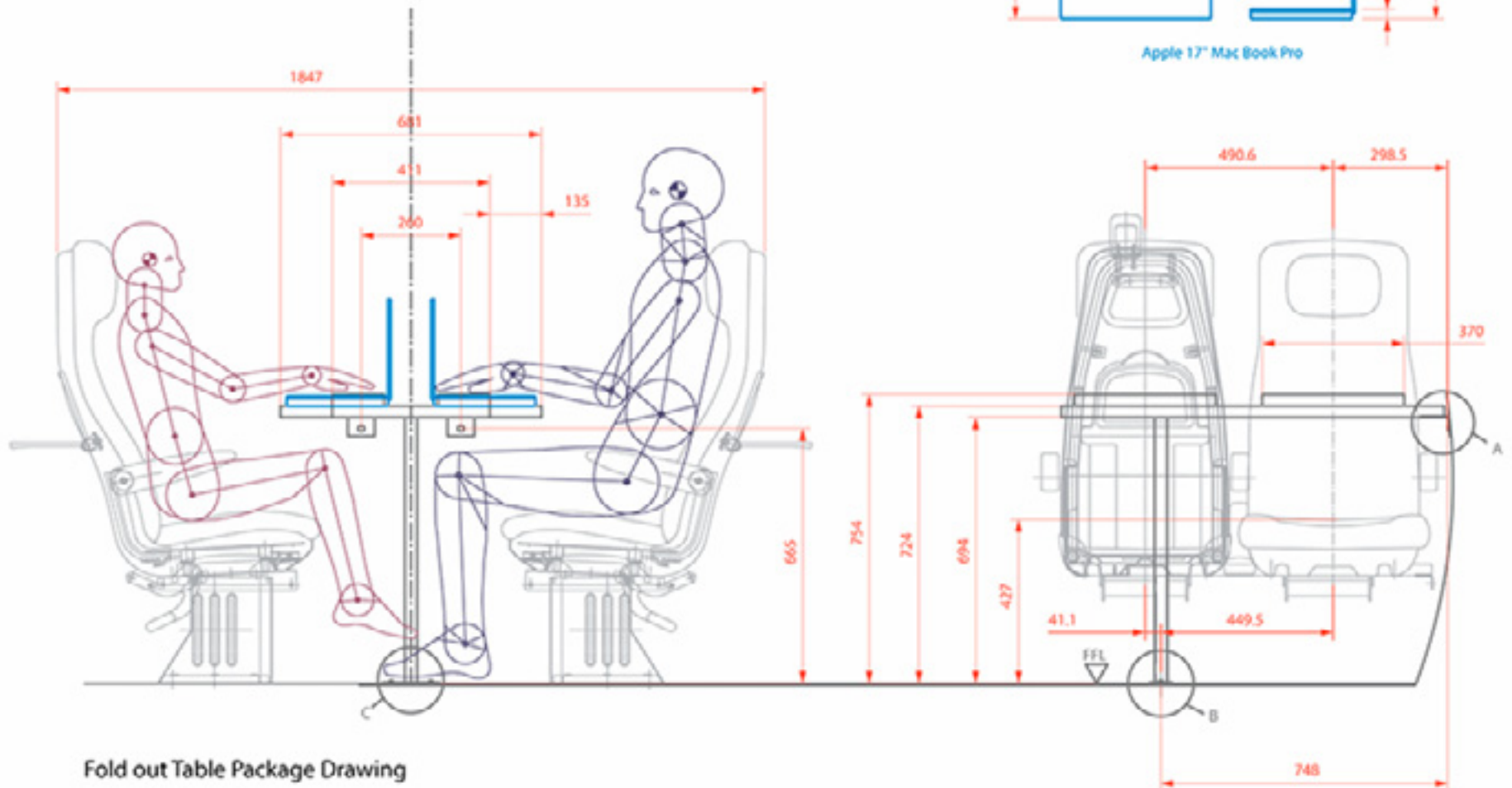
Good design is difficult to define but most people in this business know what it is when they see it. We have used a train table. Fairly uncontroversial and a fairly neutral component, it would seem

a need was identified and a solution developed. A folding table offers significant, practical benefits

95% UK Male
5% UK Female
Primarius SC3x



Apple 17" Mac Book Pro



Fold out Table Package Drawing
Scale 1:10 @ A3

12.01.2007

The operator recognised the value for customers using lap-tops, particularly on long distance journeys where travel time could be charged as productive time.

the use of a table for a two hour journey is a key influence when buying their ticket





The objective was to improve the seat environment for customers on long-distance journeys

travel time for a significant number of customers will be charged as productive time

The table offers a degree of adjustment for lap-top users and is also useful to other customers, who simply want their table surface a little nearer

a larger table surface will have a positive impact
on food and drink sales

The design we envisaged was manufactured differently than we expected, but this flexibility was necessary due to the contract structure our client demands

customer led does not necessarily mean design led

'The right product, in the right place at the right time, to satisfy the demands your customers haven't even thought about'

simple evaluation criteria

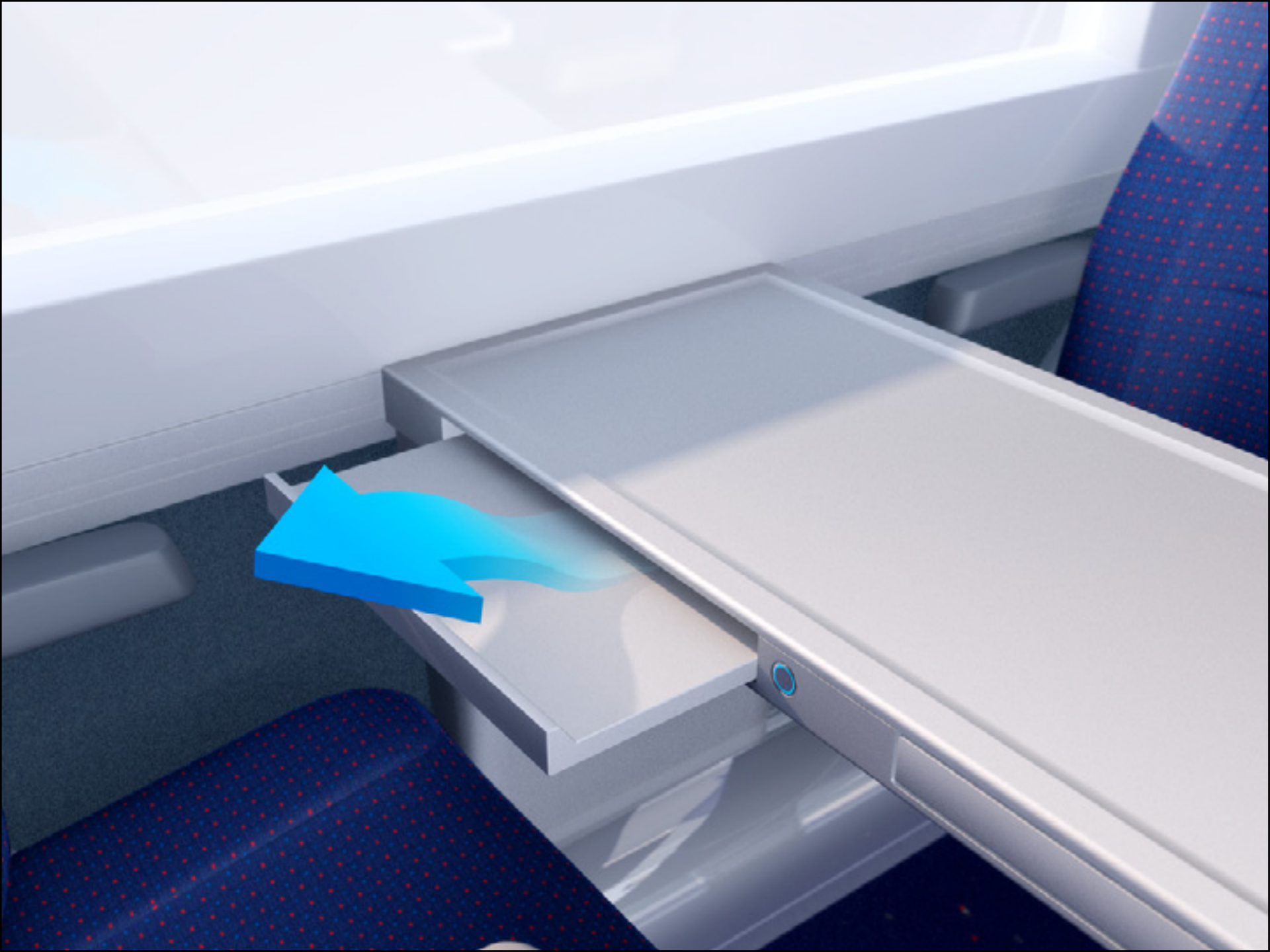




Window Seat Free
Aisle Seat Occupied

Window Seat Free
Aisle Seat Free





Good design is the lifeblood of a train company.
It can benefit everyone if well integrated:

- The customer
- The operator
- The train builder

forward thinking operators are already developing
new products to meet changing demand and expectation

Railway businesses - whatever their role
can benefit from the coordinated approach
we have shown

The principles can be used as a blueprint
as a catalyst for enduring, added value


it is a long-term process which offers significant improvement



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