



ASSET MANAGEMENT WITH BITUMEN TECHNOLOGY

IAT Conference 14th June 2018

SCOPE OF PRESENTATION

- Asphalt Traditional image
- Supply chain
- Barriers to Innovation
- Gateways to Innovation
- Integrity of Innovations

ASPHALT TRADITIONAL IMAGE

- Asphalt industry has been viewed as a very conservative industry
- Reluctance to move away from traditional approach
- Still reliant on bitumen traditional testing

.....although this is changing

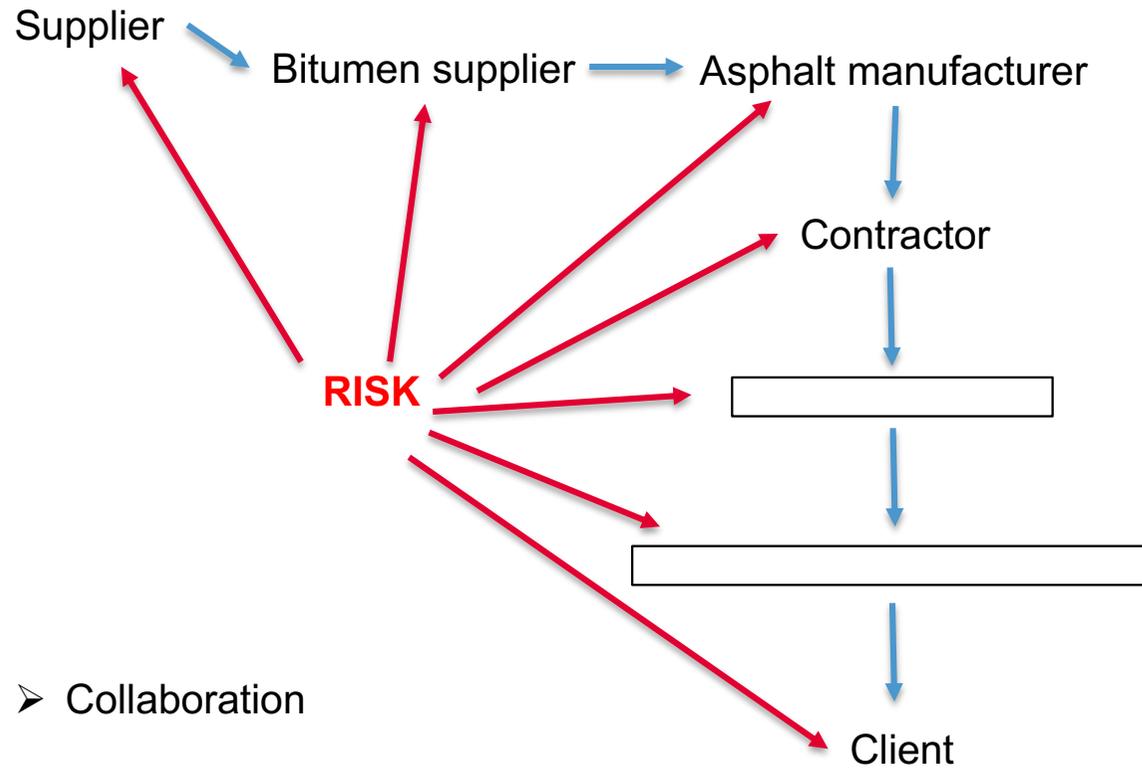
INTEGRITY OF INNOVATIONS ON OUR NETWORK

- Asphalt is an important engineering product
- Critical to UK infrastructure and way of life – 246,000m of road network
- Must be respected and Developed - ~£10bn shortfall
1 in 5 roads likely to fail within 5 years
- Engineering performance must be the focus
 - Better resistance to road stresses
 - For longer periods of time
- External political pressures can be dangerous
 - Pressure to recycle
 - “Sustainability through durability”
- Value Engineering key

DRIVERS FOR INNOVATION IN ASPHALT

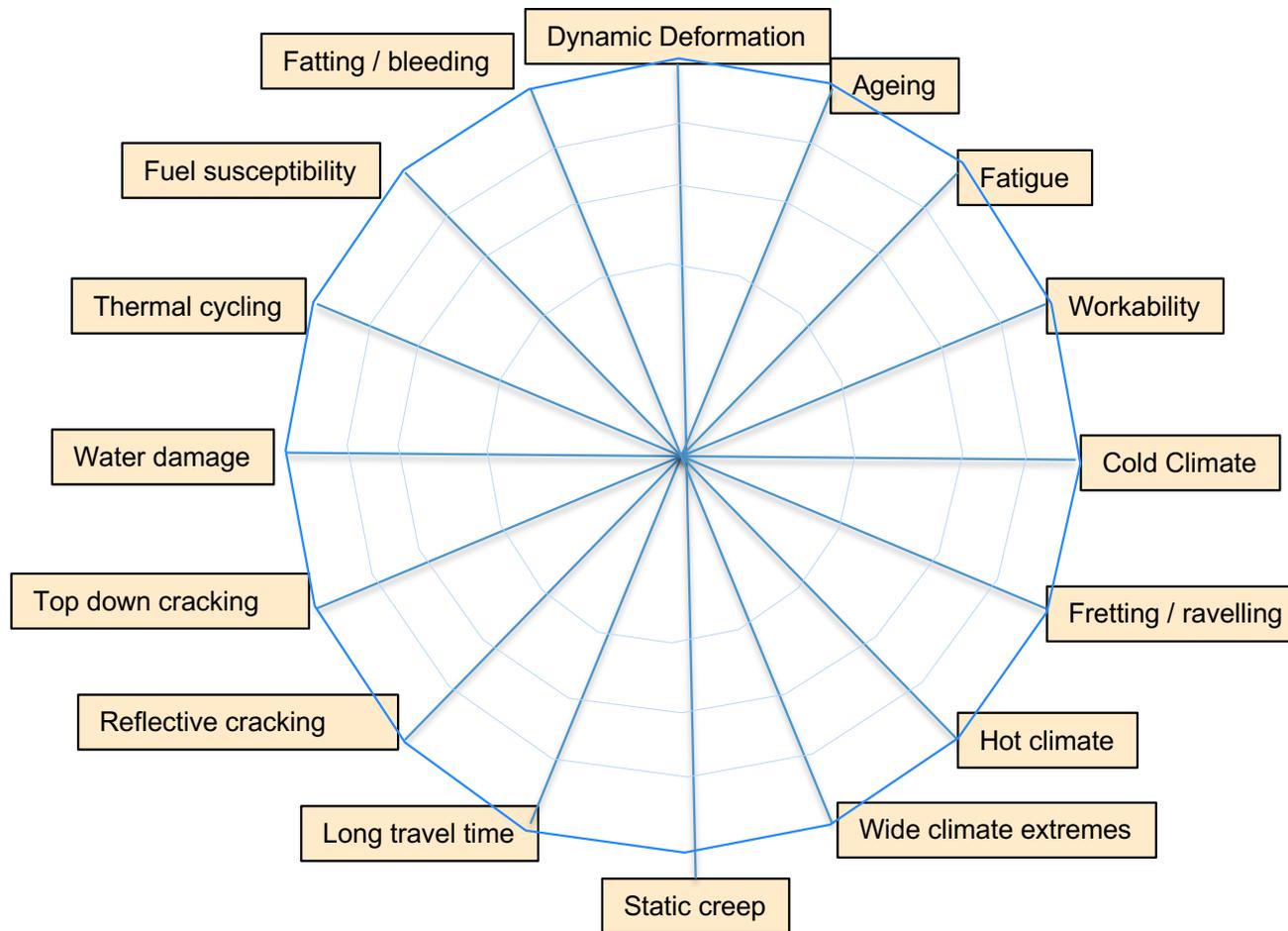
- Very specific performance requirements
- Additive advantages are noted in performance
- Waste products to be given “new home”
- Use of more local resources
- Import the innovation from elsewhere
- Cost savings

SUPPLY CHAIN



➤ Collaboration

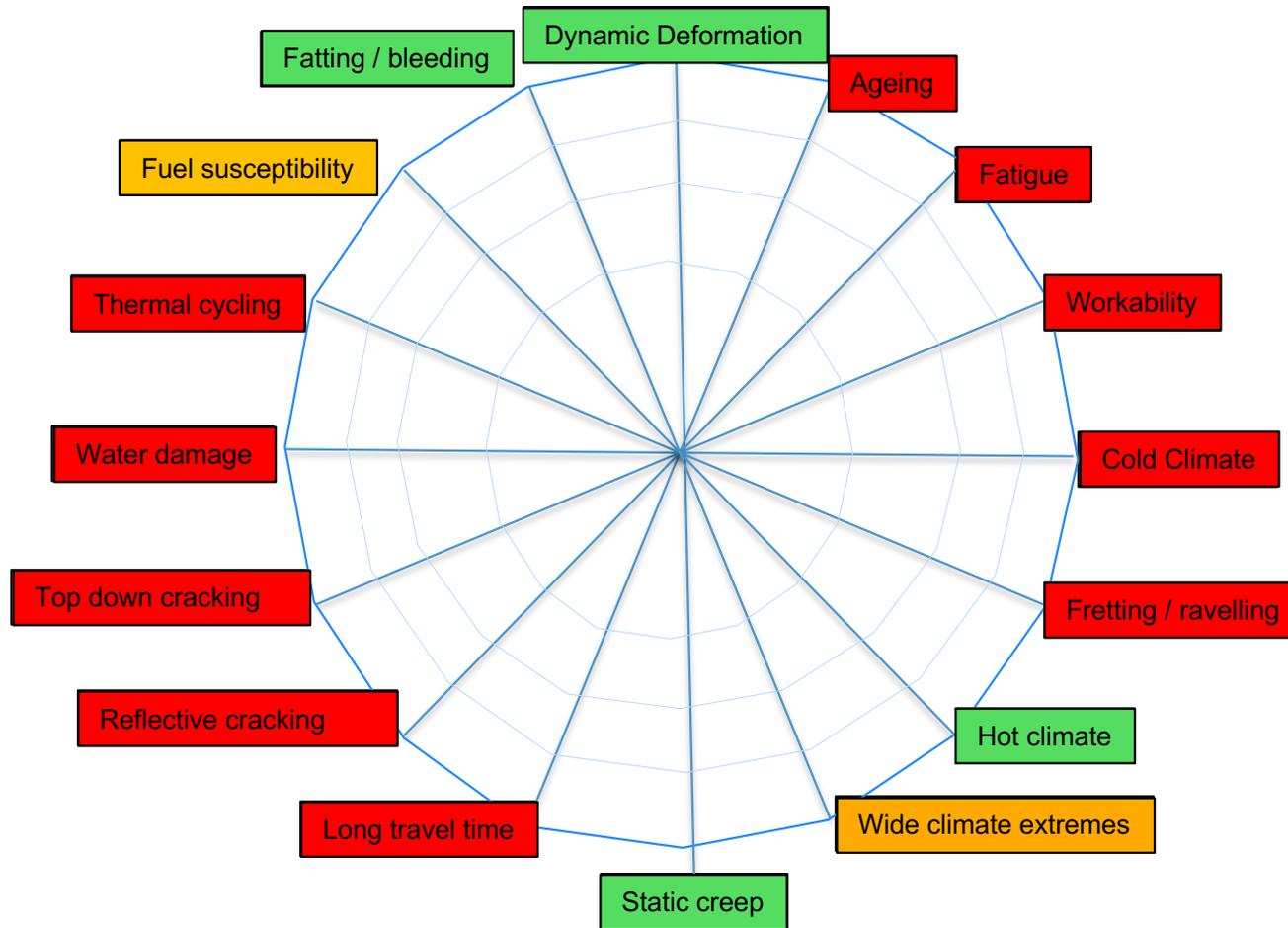
HOW DO WE MEASURE ENGINEERING PERFORMANCE?



ASPHALT PERFORMANCE IS NOT TWO DIMENSIONAL

- It is inadequate to approach a client to say “this new product increases performance in a single characteristic”
- It must also be transparent how other engineering properties are impacted
- Any innovation must have a potential net benefit over existing solutions
 - Life cost / sqm
 - Protection of limited natural resource
 - **True** Environmental benefits
 - No negative impacts on long term engineering performance

HOW DO WE MEASURE ENGINEERING PERFORMANCE?



INNOVATION FOCUS FOR ASPHALT

- Life cost of the asphalt
- Life performance of the asphalt

Must be no compromise

- Colin Loveday
“Asphalt is not a dumping ground for any old rubbish”

RISK MANAGEMENT APPROACH

- H&S has been the driver for risk management
- Same logic applies here

- Understand the risk
- Understand how the new innovation impacts on the risk
- Make strategic decisions based on that

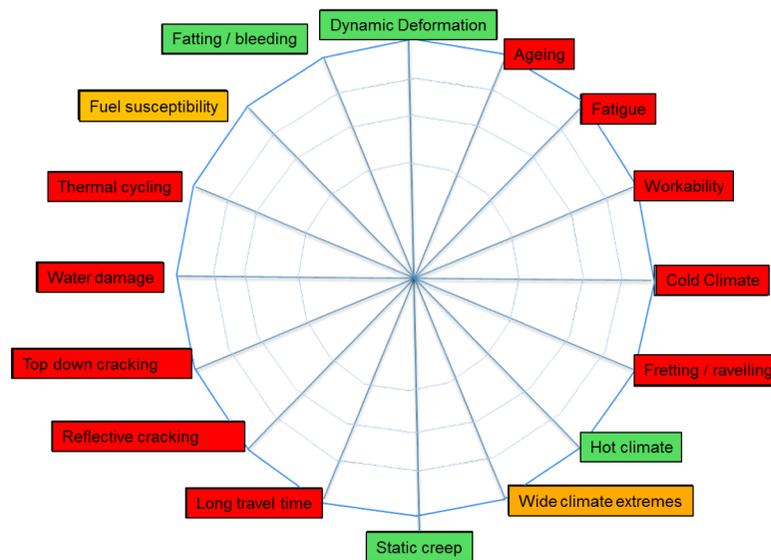
- Political pressure may be a factor
- How does that play into the wider risk of life performance and life cost?

RECENT(ISH) INNOVATIONS

HMB 15

Import of a French technique which had met with significant success in France
We Anglicised the mix and met with failure

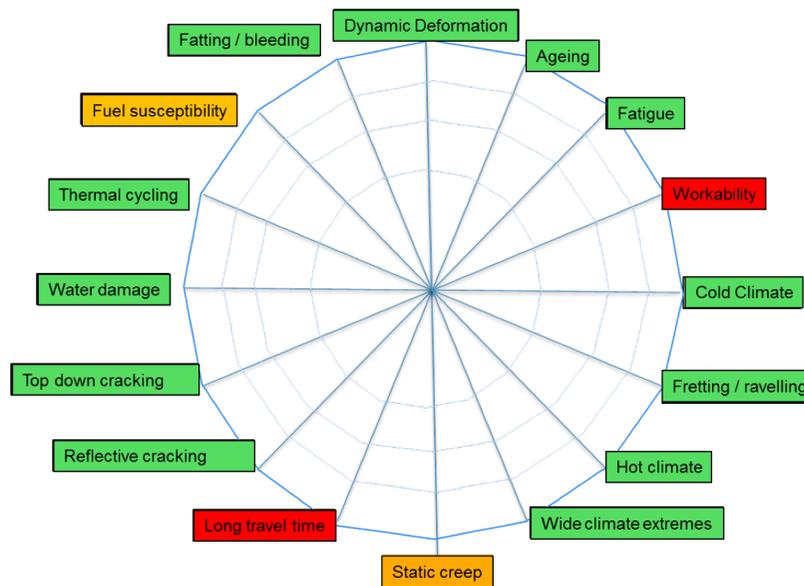
Too much focus on stiffness without adequately considering the other parameters



RECENT(ISH) INNOVATIONS

Elastomeric Polymer Modified Binders

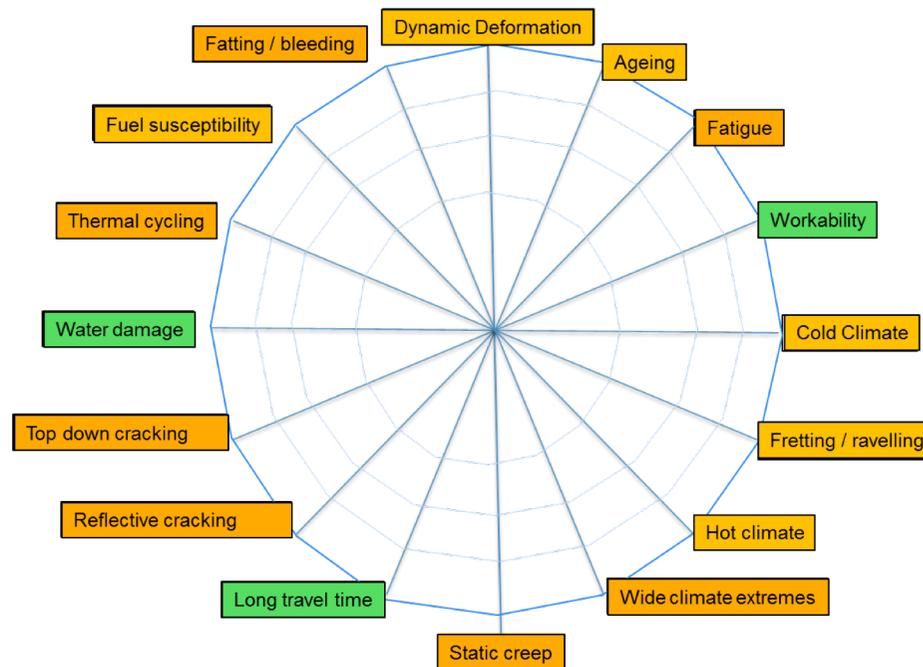
Seen to improve binder performance in many of the areas of the radar graph
Where there is compromise it is important to understand it and manage it



RECENT(ISH) INNOVATIONS

Chemically modified warm mix

Within the radar graph presented, the performance is generally equivalence
However, many other subsidiary benefits



Energy Savings

On site safety

Opening time to traffic

Ability to lay thicker mats

Wear and Tear on plants

RECENT(ISH) INNOVATIONS

Bitumen in block

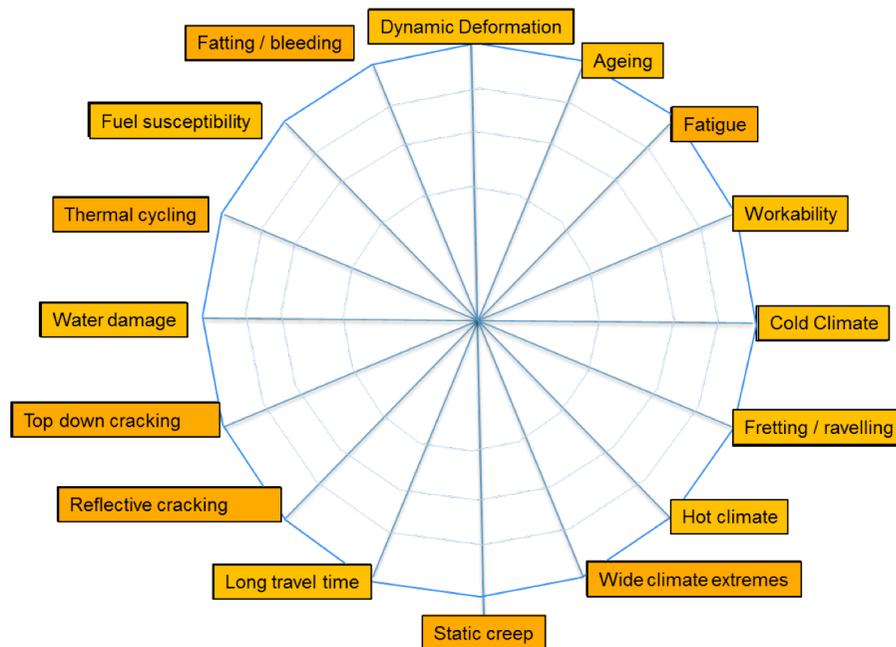
- Very recent innovation targeted at markets with poor infrastructure
- Bitumen supplied in blocks
- On heating bitumen returns to normal paving grade characteristics



RECENT(ISH) INNOVATIONS

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Transport Savings

Heat Savings

No distance issues

No waste issues

SUMMARY AND CONCLUSION

- The UK road network is the countries biggest asset and must be treated with respect
- ALARM surveys illustrate the network is in a poor state
- Innovations are critically important to enhance the performance of this asset.
- However, innovation must be well managed
- Innovation must be technically driven not marketing driven
- The whole performance implications must be understood
- Decisions should be taken on engineering principles, not political pressure
- There must be a **CONTROLLED** process for innovation
- It must not be too bureaucratic to dissuade innovation but sufficient to control it.