

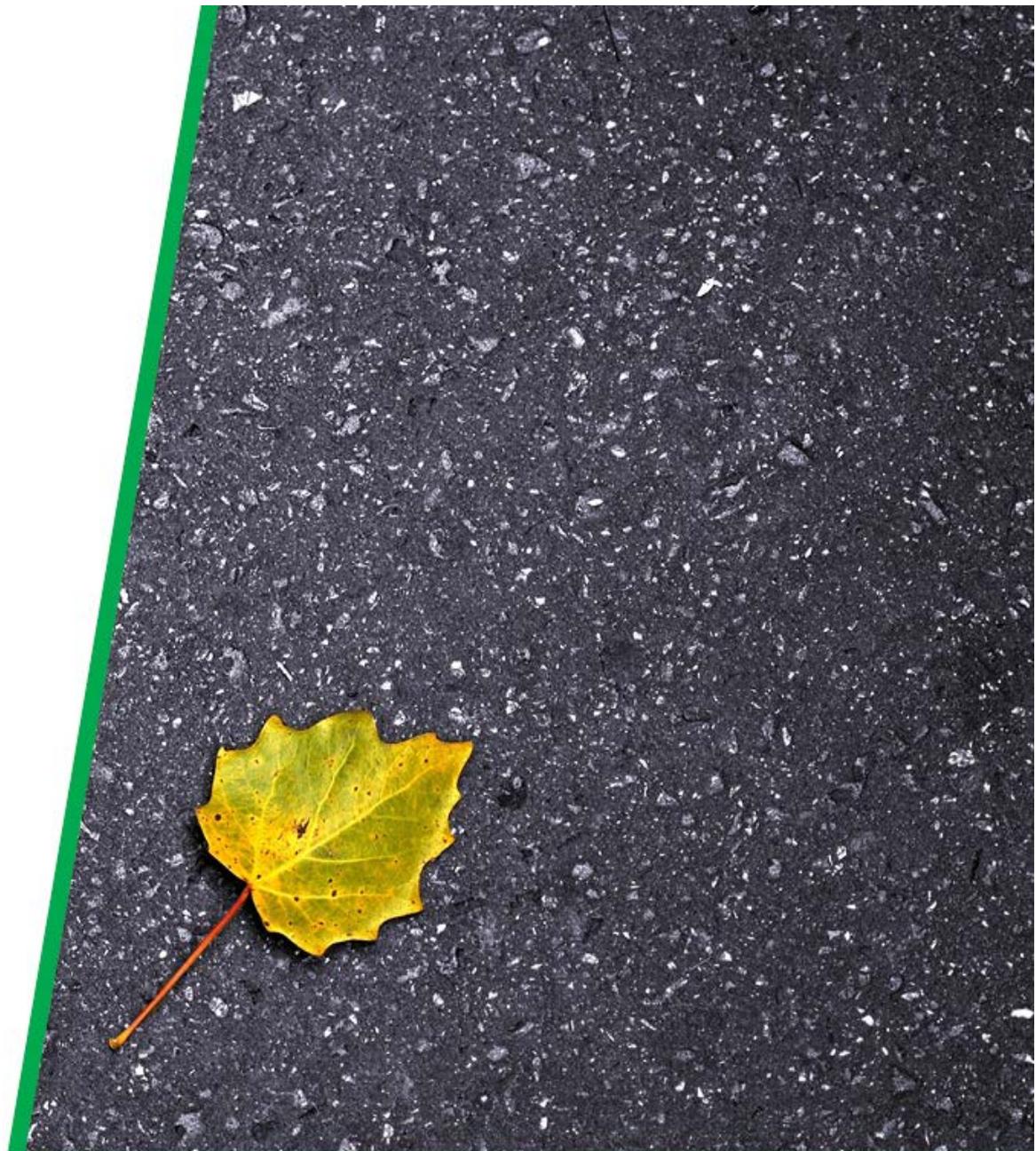


# Asphalt Future Development Priorities

Asphalt-What's around  
the corner

SCI/NARC Seminar

20<sup>th</sup> March 2014





It's what Britain's built on.

# Challenging topic!

- Current position
- Future priorities

**Dr Nizar Ghazireh**  
Senior Manager

## ***A VIEW FROM THE TOP***

***'To be our customers'  
preferred choice for  
sustainable  
construction solutions.'***



***'By clearly understanding their needs and  
what interests them.'***

# *From Products to Solutions*

## Key Benefits

- A wider portfolio of customer solutions.
- Cost savings (constituent and/or production)
- Specific single size aggregates conservation.

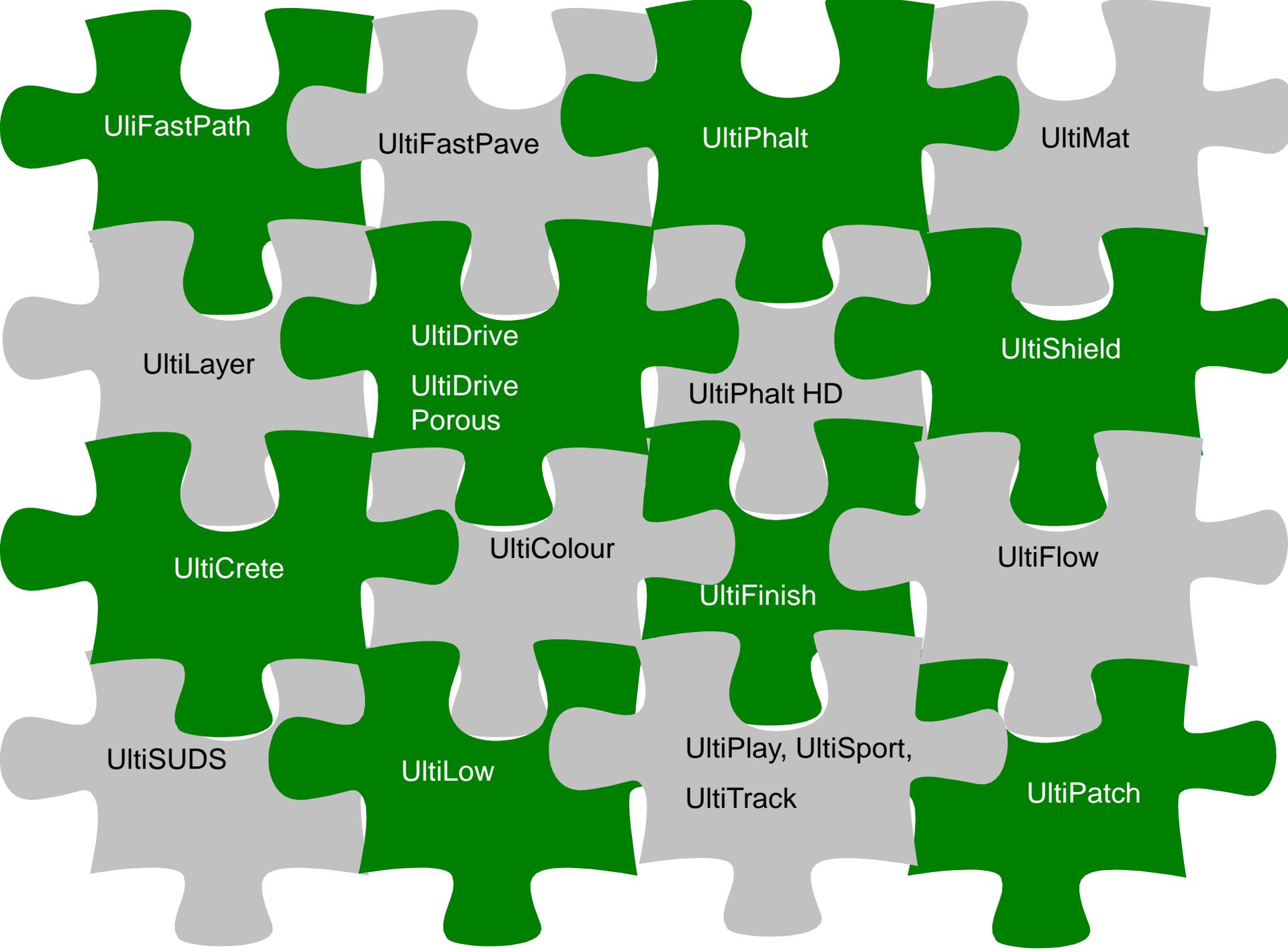
# ULTIMATE SOLUTIONS

AGGREGATE & ASPHALT  
EXPERTISE

 **LAFARGE  
TARMAC**  
It's what Britain's built on.



Clients usually want the best engineered sustainable solution that demonstrates cost savings



UliFastPath

UltiFastPave

UltiPhalt

UltiMat

UltiLayer

UltiDrive

UltiDrive  
Porous

UltiPhalt HD

UltiShield

UltiCrete

UltiColour

UltiFinish

UltiFlow

UltiSUDS

UltiLow

UltiPlay, UltiSport,  
UltiTrack

UltiPatch

# ULTIMATE SPEED

## FAST, SINGLE LAYER SOLUTIONS

### ULTIFASTPATH

One pass footpath surfacing solution

### ULTIFASTPAVE

One pass car park surfacing

### ULTIPHALT SINGLE LAYER

Less disruption, less cost and  
a more sustainable asphalt



# Stansted Airport

***ULTIMATE  
SOLUTIONS***



## **BENEFITS TO THE CONTRACTOR**

Reduced costs by avoiding regulating

Only one layer – reduced time on site

Reduction in traffic management costs

Reduced bond coat operations / costs

Better heat retention giving increases potential for warm matching – avoiding cutting joints

Thicker layers are less weather susceptible during the laying process

## **BENEFITS TO THE CLIENT**

Installed by accredited contractors

Reduced contract time – less disruption

Reduced contractor costs should achieve contract cost savings

Enhanced structural contribution compared to regulating and thin surfacing

Lower voids give improved waterproofing

One less layer to bond reduces the chances of slippage

Alternative to DBM and surface dressing



**ULTIMATE  
SOLUTIONS**

# ULTIMATE FLEXIBILITY

FLEXIBLE SOLUTIONS  
TO CRACKING  
AND DEFORMATION

ULTIMAT

ULTILAYER



ULTIMAT

ULTILAYER

## Why ULTIMAT / ULTILAYER

Evolved network not designed for heavy loads and super single tyres.

Failing road network - reflective cracking.

Cost v longevity  $\Rightarrow$  full life cost benefit.

Clients with limited budgets  
e.g. deep reconstruction too expensive  
and avoidance of public disruption a  
high priority.

Constrained construction periods.





# ULTIMATE SOLUTIONS

# ULTIMATE TOUGH SOLUTIONS

TOUGH SOLUTIONS  
FOR HEAVY DUTY PERFORMANCE

## ULTIDRIVE

Tough and durable surfacing for  
driveways and vehicle parking areas

## ULTIPHALT HD

High performance durable surfacing

## ULTISHEILD

Fuel resisting asphalt

## ULTICRETE

Grouted system for demanding sites



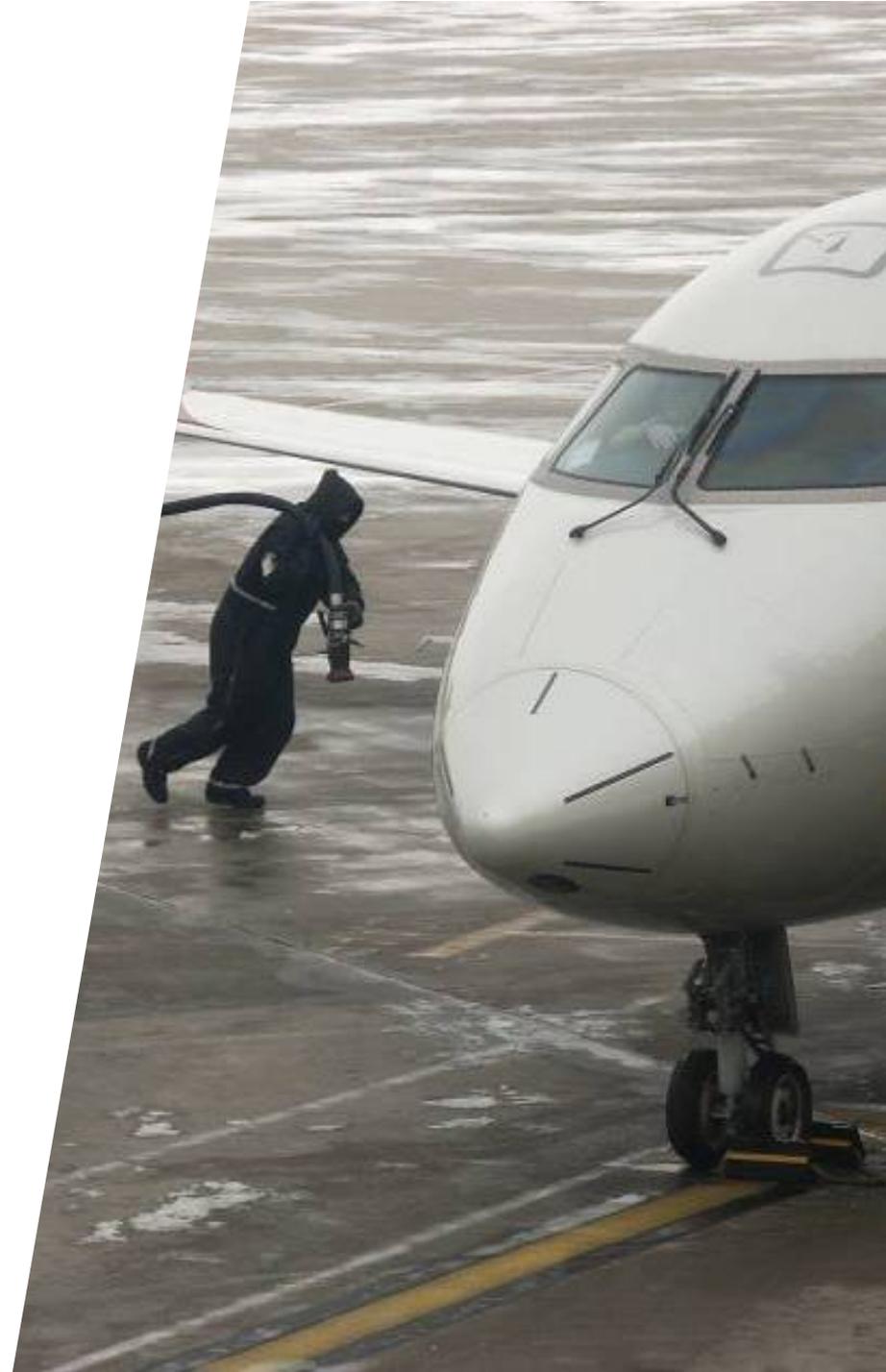


# ULTIMATE SOLUTIONS

**ULTI**CRETE

Suitable for heavy industrial and commercial applications including:

- Aircraft refuelling areas
- Loading bays
- Distribution centres
- Large bus stations
- Ports



# ULTIMATE SOLUTIONS



# ULTIMATE

## COLOURED AND TEXTURED ASPHALT AND AGGREGATE SOLUTIONS

### ULTICOLOUR

Coloured asphalt range

### ULTIFINISH

Durable, exposed gravel finish

### ULTINATURAL

Decorative aggregates



# ULTIMATE SUSTAINABILITY

## SUSTAINABLE AGGREGATE AND ASPHALT SOLUTIONS

### ULTIFLOW

Aggregate drainage system

### ULTIDRIVE POROUS

Porous driveway surface

### ULTISuDS

Sustainable Drainage System

### ULTILOW

Low Temperature Asphalts



To be our customers'  
preferred choice  
for sustainable  
construction solutions

[sustainability@lafargetarmac.com](mailto:sustainability@lafargetarmac.com)

# ULTIMATE SPORTS

## HIGH PERFORMANCE SPORTS & PLAY SOLUTIONS

ULTIPLAY

ULTISPORT TENNIS

ULTISPORT MUGA

ULTIPLAY POROUS

ULTITRACK



# Sports Pitch Construction

Porous surfaces are commonly used for sports pitches which are quicker draining than conventional asphalt.

A porous binder course and underlying drainage aggregates are necessary for effective drainage.

Tennis Courts & MUGAs are often painted using specialist paints to achieve a coloured finish. Painted finishes need to be renewed every few years.

Use of ULTICOLOUR coloured asphalt with complementary aggregate gives a more durable colour.

## Ultimate asphalt solutions for velodromes

- Tried and tested product with the laying process recognised by The British Cycling Sports Federation
- Tailored solution to deliver maximum quality and high performance
- Product laid using a specially designed parabolic screed to provide the contour required to meet the high demands of this sport
- Surface friction requirements are contract specific



**ULTIMATE  
EXPERTISE**



**ULTIPLAY**  
**ULTIPLAY**  
POROUS

Durable, smooth play and  
MUGA asphalt

Puddle free with minimal  
disruption from wet weather  
conditions

- Prevention of standing water reduces ice risk
- Improved resistance to softening in warm weather
- Suitable for occasional vehicle parking
- Enhanced workability for easy laying
- No iron work required
- Available in different colours

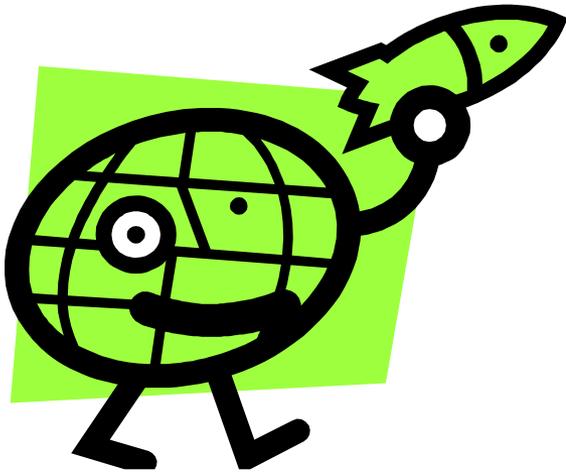


**ULTIPATCH**  
FOOTWAY

**ULTIPATCH**  
POT HOLES

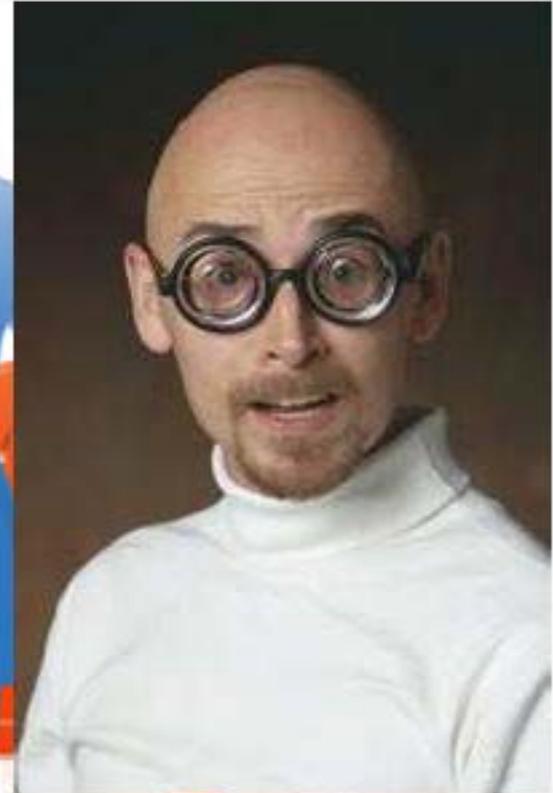
Instant solutions to pavement  
and footway failure

- 6mm cold laid surface course
- Advanced deferred set binder technology
- Highly workable
- BBA certification underway for patching and pothole repair
- Available in Bags or Tubs



**...So what are the future  
development priorities for  
asphalt?**

# Experts...





The fresh  
pair of eyes.

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# Responsible for quality...



# Mad Scientists...

FELI POLLO



Does he look  
familiar?



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**Binder Cost**

Reduced Disruption

**Construction Cost**

Environmental

**Floods**

**Energy Cost**

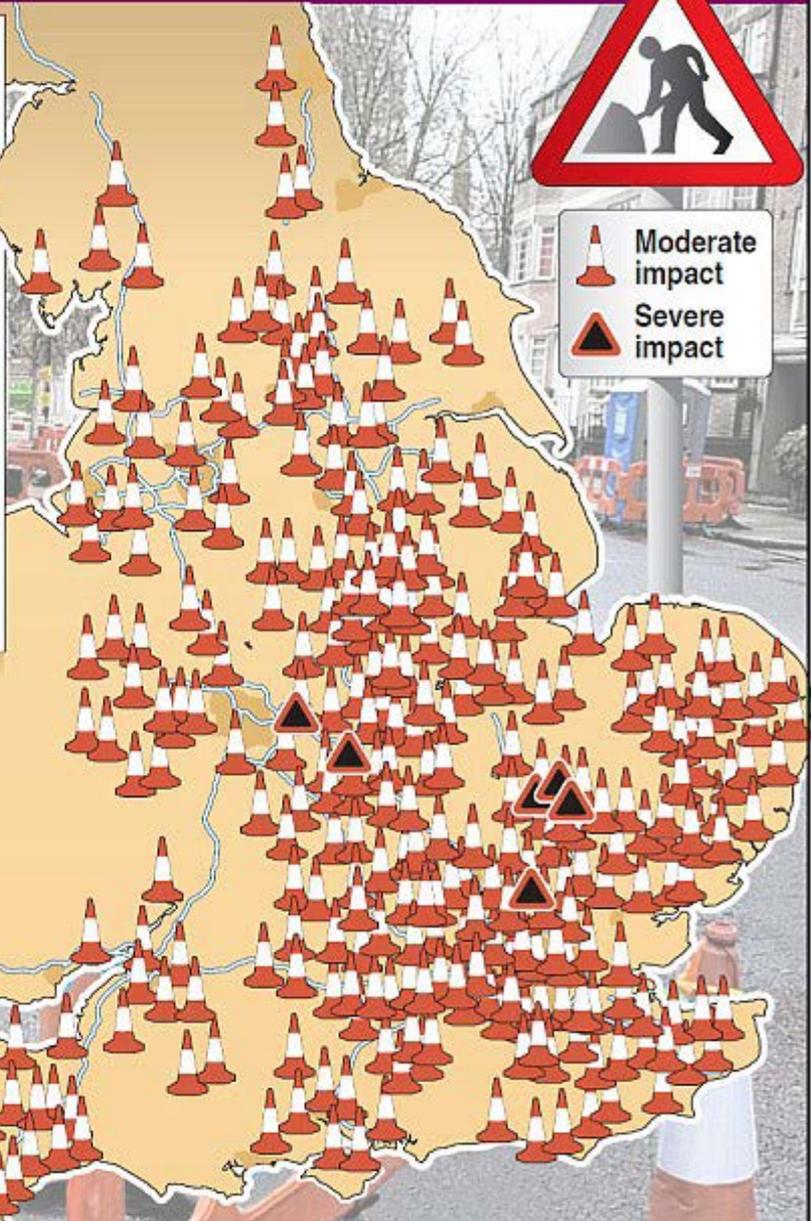


**Increase in water inside pavement structures and  
resistance to submerged conditions**

# CONE BY CONE...THE WORST AREAS

PUGH

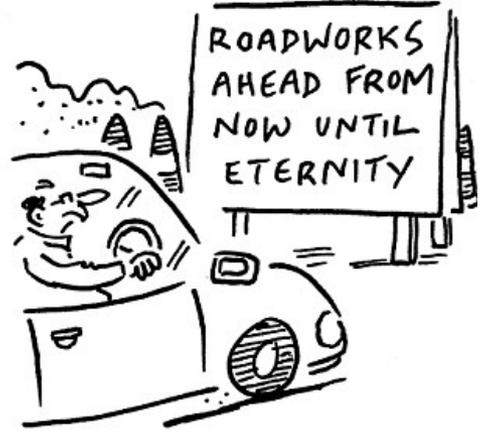
- **2,705 miles** of motorway in Britain
- **3 years** for Highways Agency to complete ten miles of roadworks on the M1
- **160m** journeys were affected by the marathon disruption
- **1.6m** potholes in the UK
- **£70** average cost to repair each pothole
- **56,544 miles** of gas mains yet to be replaced by National Grid
- **£25,000** maximum fine for utility companies whose roadworks overrun
- **£12** price of each motorway traffic cone
- **4** bridges across Thames in London hit by roadworks



Moderate impact  
Severe impact



Roadworks shown in 80 local authorities in England compiled by the Electronic Local Government Information Network

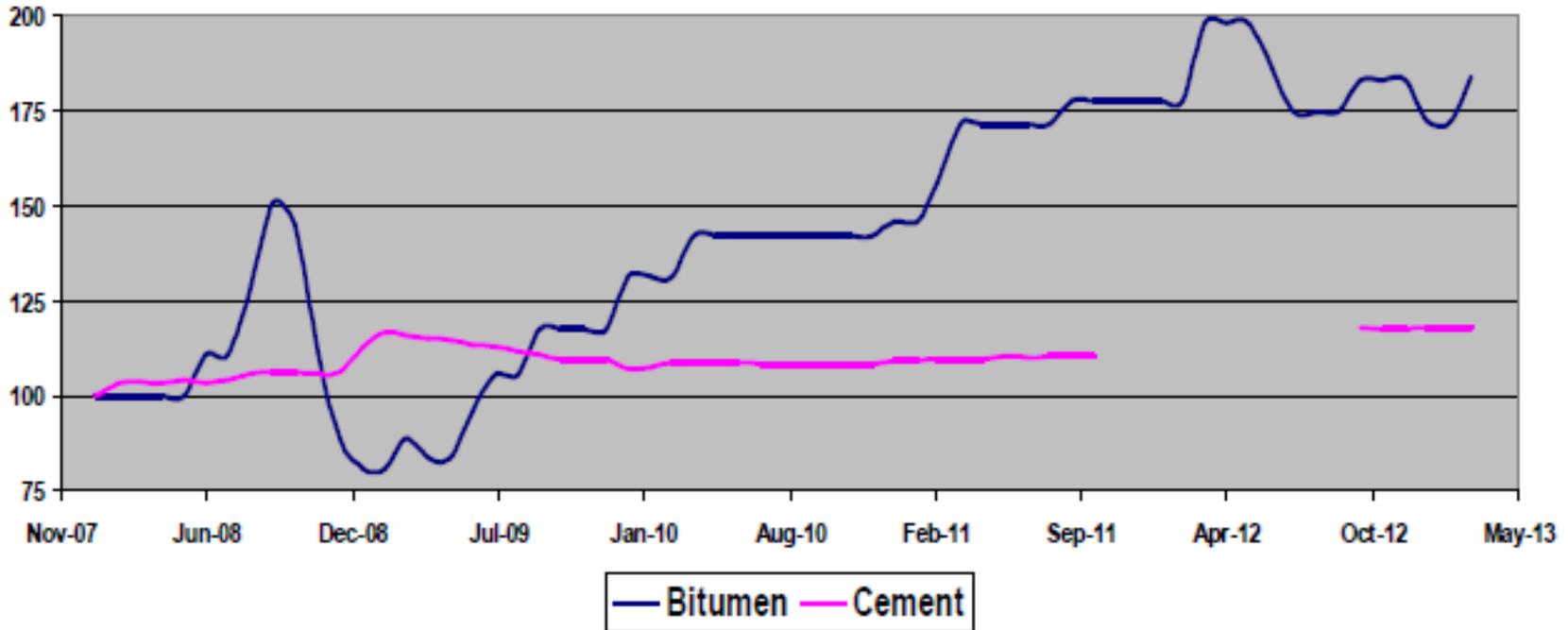


# Bitumen

prices have risen by 60%  
over the last two years

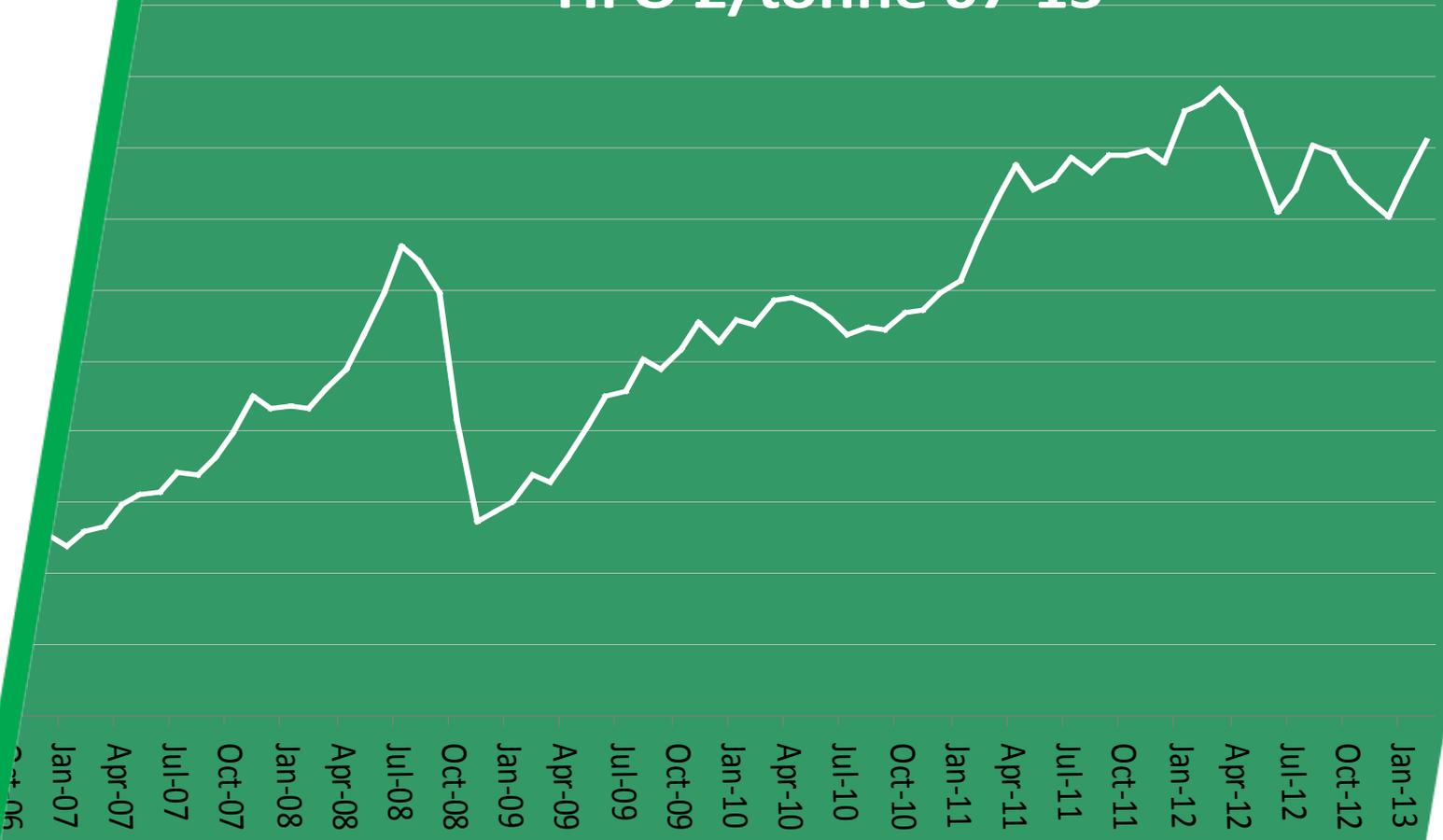


### Bitumen v. Cement Price Indexing



# Energy

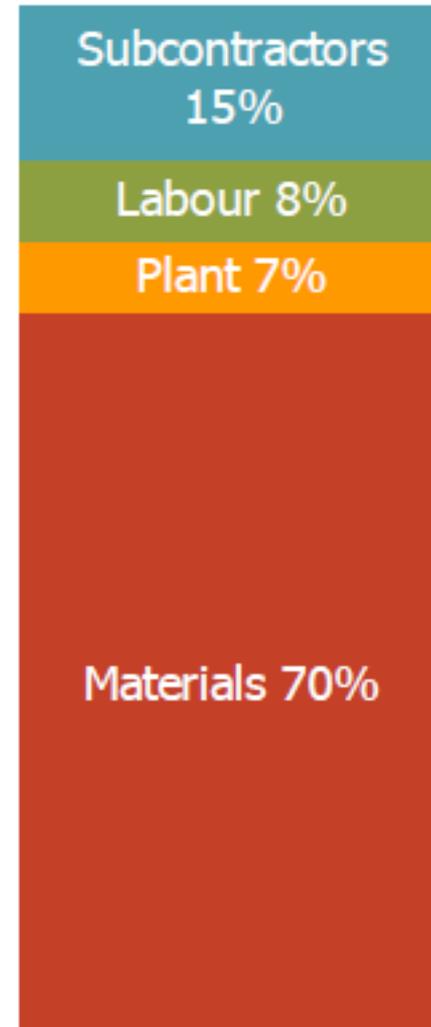
## HFO £/tonne 07-13



## Typical Surfacing Scheme Cost Distribution %

Since January 2009 material costs have continuously risen

‘Less asphalt for more money’



# Environmental Environmental

**-Tar**

**-Leaching  
from waste**





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Driving innovation



## **...Not in any particular order**

- Enhanced durability of thin surfacing
- Smart pavement design: thinner or durable?
- Dealing with tar including emissions when used in hot mixes
- Reflective cracking vs thickness of overlay
- Blended PSV aggregates for surface course materials
- Improving adhesion between layers

## **...thinking outside the box**

- Automated construction
- Automated roads
- Use of nanotechnology to monitor pavement performance
- Self healing asphalt to cracking
- Self healing asphalt to deformation
- Lower noise asphalt
- Emission absorbing asphalt
- Self compacting asphalt
- Flowable asphalt



It's what Britain's built on.

- Longer life asphalt
- Enhanced durability of cold asphalts
- Water submerged asphalt
- Self levelling asphalt



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**...and finally**

**Research must be driven by needs rather than 'nice to do'**

**Innovation is fresh thinking that adds/creates value**

**Lafarge Tarmac is focused on innovative research which will deliver solutions to future problems**



It's what Britain's built on.

Thank you

