

The **STrategic Asphalt Research** **(STAR)** Symposium

Mike Anderson, Asphalt Institute

AMAP Annual Meeting

February 6-8, 2018

Phoenix, AZ

AIF Research Committee Members

Greg Malarkey, Malarkey Roofing Products, Chairman

Gaylon Baumgardner, Ergon Asphalt & Emulsions, Inc.

Tom Bertsch, Calumet Specialty Products Partners, L.P.

John Brownie, Imperial Oil (ExxonMobil)

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Laurand Lewandowski, Owens Corning Science & Technology, LLC

Ralph Shirts, ExxonMobil Fuels and Lubricants Marketing

Hassan Tabatabaee, Cargill Industrial Specialties

Brian Wilt, Marathon Petroleum Company LP

STrategic Asphalt Research Symposium

May 10-12, 2017

The Broadmoor Hotel, Colorado Springs, CO





A special thanks to all of our symposium sponsors:

\$10,000 Galaxy



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The Asphalt Institute Foundation would like to thank the Asphalt Institute for serving as an in-kind sponsor of this year's STAR Symposium.

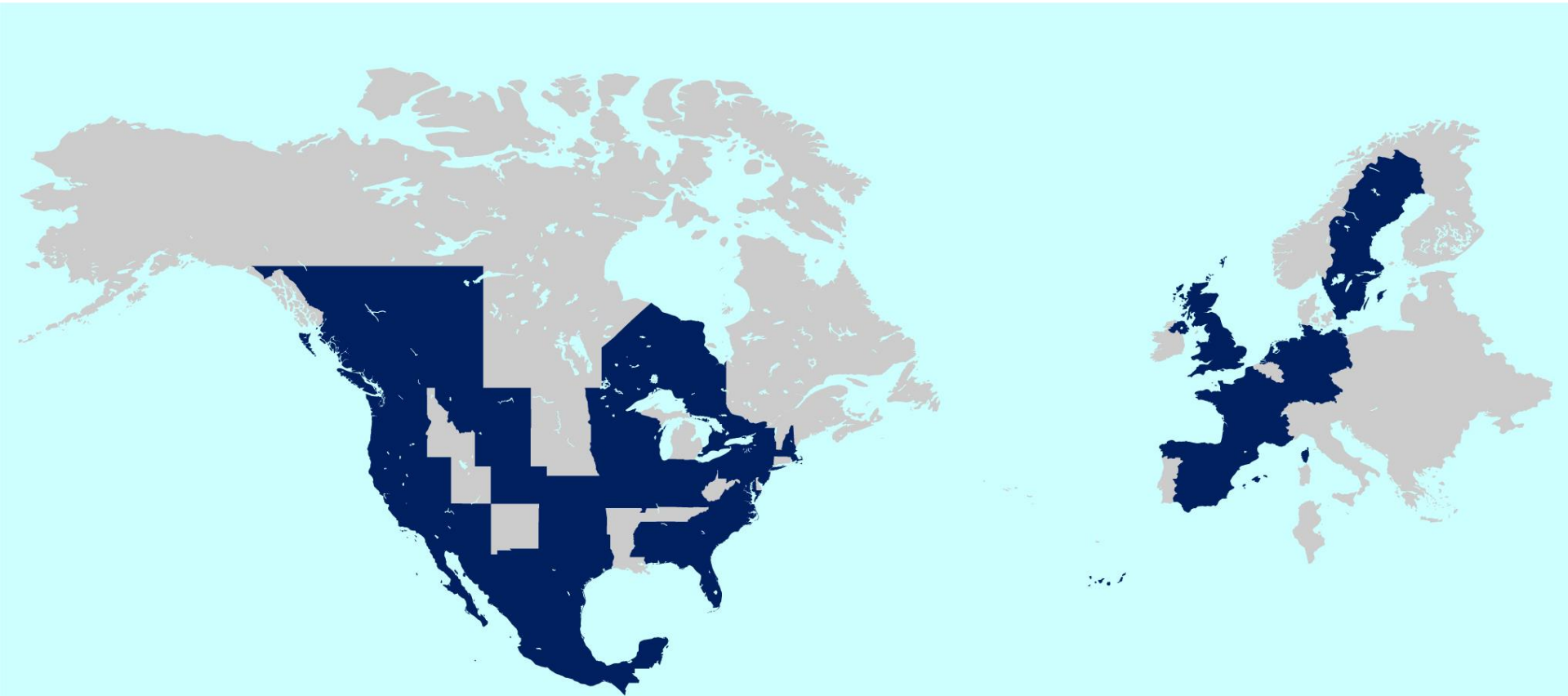
The STAR 100

- Request sent to industry partners asking for nominations
- AIF Research Committee reviewed nominations and provided recommendations to the AIF Board
- AIF Board selected the **STAR 100**

Who Are the STAR 100?



- Forward-thinking individuals from 32 US states, Washington, DC, and 8 countries including Canada, France, Germany, Mexico, Netherlands, Spain, Sweden and the United Kingdom.



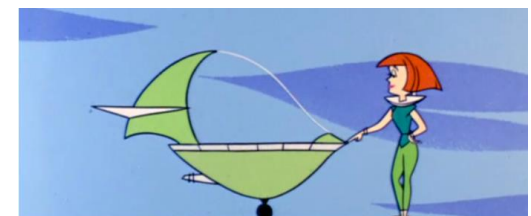
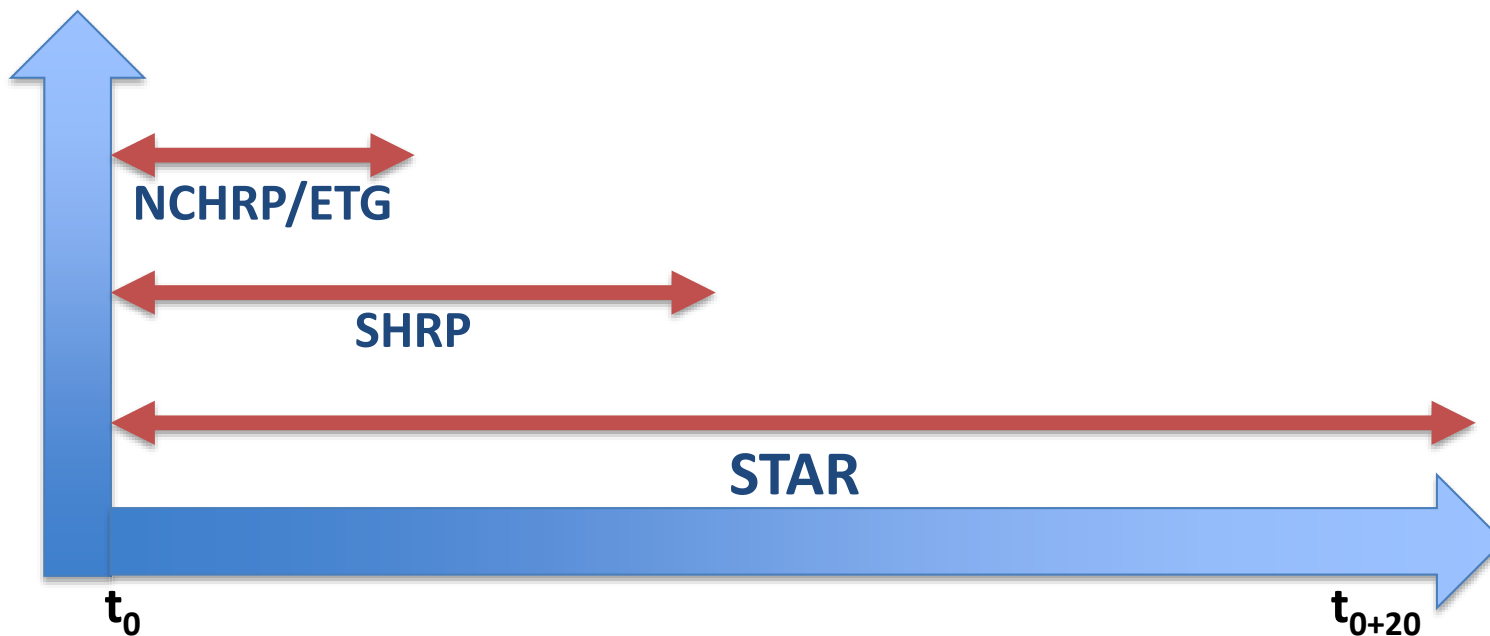
Who Are the STAR 100?

- Representing government, industry, and academia



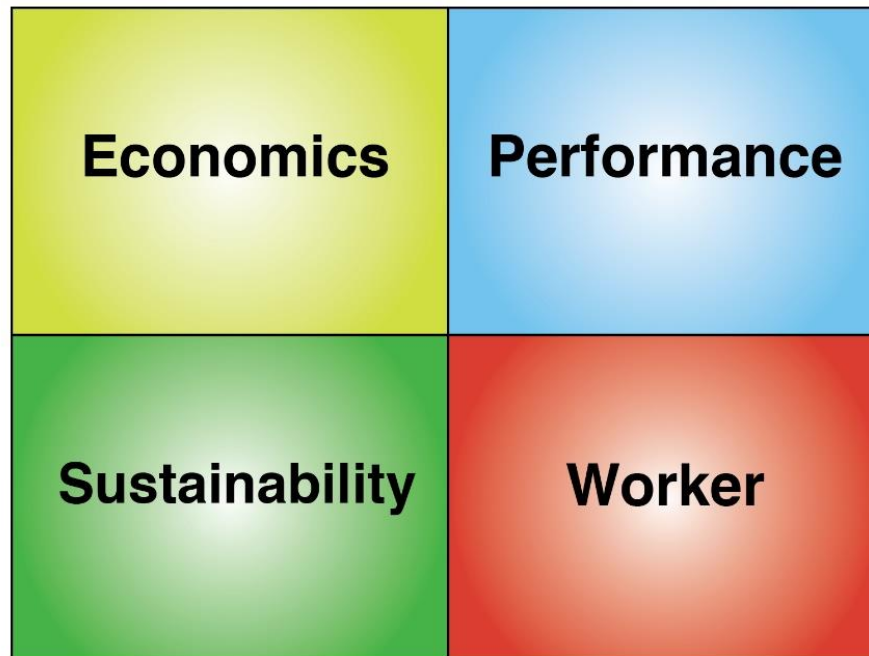
STAR Symposium

Identifying and Addressing Research Needs



Four Breakout Sessions

- *Economics **and** Performance **first held simultaneously***
- *Sustainability **and** Worker **later held simultaneously***



Twelve representative strategic ideas that surfaced...

Important Note: These should not to be construed as the “best” or “most important”, only as representative of the many strategic ideas that surfaced. All ideas, both tactical and strategic, are captured in the report.

Innovative project procurement

Perhaps we could do a study involving other economic partners that looks at how public agencies could do project procurement with better risk sharing and better financial diversity to get better performance and allow our industry to be innovative.

Handling disruptive technologies

How do we prepare for future disruptive technologies or events that may occur, such as changing crude sources, declining demand for gas, electric cars, new economics, etc.?

Economics

Map the Web

What potential research partners (i.e. insurance institute for highway safety) could we work with to identify needs and build the web? Map the web!

Economics

Technology changing road usage

What is the industry doing to look at how technology is changing road usage (e.g., through Google Maps and Waze) by shifting traffic to secondary and tertiary roads that were not designed to handle the loads, thus resulting in accelerated failures on those roads? Is there room for industry or the community to communicate with mapping companies about the issue this creates?

Societal demands for infrastructure

What will be the demands for our roofs and roads that go beyond its primary use today? What will society demand for our infrastructure?

Performance

Future performance requirements

Macro trends will impact our industry. What do we need to know now to anticipate the increasing requirements on road and roof performance? What are the drivers that will impact performance needs in the future? How will roads/roofs be used in 30 years? How can we use them in the smartest way to serve the customer? Who do we need to partner with to make sure asphalt is a product of choice for performance in the future?

Performance

Other uses for RAP/RAS

Where else can RAP or RAS be used outside of asphalt mixes? Is there a more effective place to use it?

Generating road energy

Can we generate energy from our roads?

Sustainability

The asphalt ecosystem

What ancillary industries are impacted by our product and how can we assist them? Map out the ecosystem of asphalt. Are there ecosystem options to reduce our impact? The biggest wins in sustainability come from partnerships. Mutual opportunities.

H₂S and odor

Can we economically engineer the “bad actors”, like H₂S, out of asphalt?

The push towards social acceptability means that we have to remove the smell from asphalt, not just the H₂S.

Worker

All I need is the air that I breathe...

What are we looking at 15-20 years down the road when people don't want to breathe anything other than pure air? It isn't a question of whether the asphalt gives off any fumes and whether they are harmful; the worker of the future will not want to breathe any of it. We need to consider how to eliminate all fumes from the workplace.

Worker

Re-re-recycling and health

Do re-recycling and re-re-recycling result in some unintended behavior in the asphalt materials – particularly from a health effects standpoint?

Worker

Brainstorming

Facilitators challenged the STAR 100 to think 10-20 years out and to offer items that did not get addressed or fit neatly into the other four sessions.



External Input

Social media and direct e-mail offered an opportunity for input before the STAR Symposium.

Much of the input reflected consistent themes as was expressed at the event.

STAR Symposium Report

Highlights the discussion during each of the breakout sessions during the symposium.

Published in both PDF and e-book versions.

Available in the AI Store



Publication Production and Printing
Courtesy of

ExxonMobil  **Imperial**

Next Steps

Communications Plan

How will STAR be presented to industry as a whole?

AIF Research Committee Direction

Take STAR ideas and translate into RNS

Promote funding of projects

Monitor progression of research

Prepare for a future **STAR Symposium**

Summation

The Strategic Asphalt Research (STAR) Symposium was the seminal event fostered by the Asphalt Institute Foundation (AIF) Research Committee.

Purpose was to instigate and stimulate conversation about over-the-horizon issues expected to affect the asphalt industry over the next two decades.

Fits within the objectives of the AIF – to conduct strategic research and educational activities that are designed to advance and improve the liquid asphalt industry.

Questions?

