INTRODUCTION OF
JSTI GROUP and TRI

Frank Hao Li
Deputy Director of TRI
JSTI GROUP
May 22th, 2017  Denver
Contents

一 Introduction of JSTI GROUP

二 Introduction of Transportation Research Institute

三 Technical Ability and Test Capability

四 International Communication & Cooperation
Established as a provincial institution for scientific research

The first restructured scientific transportation research institute, with over 100 employees and an output value of 20 million yuan

The first listed transportation engineering consultancy enterprise in China (IPO, Code: JSTI 300284)

JSTI Group was officially inaugurated, The Group has over 3800 employees and its output value reached 2.56 billion RMB

JSTI Group was officially inaugurated, The Group has over 7800 employees and its output value reached 2.16 billion yuan

With acquisitions of TestAmerica & EPTISA, the Group has over 7000 employees
With its scope of operation covering industries such as highways, municipal administration, irrigation, railways, rail transit, environment, aviation, construction and electric power, JSTI has developed into a conglomerate with survey and design, scientific research, testing and new materials, and R&D for new technologies at its core.
- **National Scale**
  - JSTI operations have covered all 31 provinces, autonomous regions and municipalities in the country except Hong Kong, Macau and Taiwan

- **Global Scale**
  - Business has been extended to such countries and regions as Africa, Southeast Asia, America, East Europe, Australia, Italy, and Pakistan, etc.
  - Based on the overall development trend of internationalization
  - One of the first Chinese engineering design and consultancy enterprises that went global
US **Largest** environmental monitoring service provider- *TestAmerica*

- Organic and inorganic analysis and detection services
- Ranking No. 1 in US water resource, solid waste, and air detection
- It owns the most advanced IT platform
- It owns two industry leading air detection service provider

World **leading** engineering design consulting service provider- *Spain EPTISA*

- Water and environment (27%)
- Social and economic development (22%)
- Transportation (24%), Information technology (17%)
- Industry, energy, and building (10%)
- Appraised by America’s ENR as among the “Top 60 Chinese Survey Planning Enterprises” for 12 consecutive years (ranking 14th place in 2016).
- JSTI ranked 108th and 98th among the “Global Top 150 Engineering Design Companies” by America’s ENR in 2014-2016.
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四 International Communication & Cooperation
- 1978, Founded as central lab of Jiangsu Transportation Research Institute
- 1981, Central Lab of JSDOT
- 1996, 1st SHRP Lab in China
- 1996, Key Lab of Transportation Research of JS Province
- 2000, ISO9001 Certification
- 2000, Class's A Qualification
- 2006, Post Doctor Station
- 2007, Pavement Maintenance Center of JS
- 2012, National Lab of Advanced Road Material (NLARM)
- 2013, Collaborative Platform for Advanced Road Materials (CPARM)
National Lab of Advanced Road Material (NLARM)

- Awarded by NDRC and MOT
- China's unique national road material R&D platform
- Research on the application of new road materials
- Product equipment development research
- New material design verification and standard research
- New materials technology promotion and technical services
- Personnel training, international exchange and cooperation
Mr. YU Jia

Chief Engineer

Famous expert of asphalt pavement,

Former Chairman of International Society of Asphalt Pavement (ISAP)
Dr. Rongji Cao
Professor,
Vice President of JSTI
International rubber asphalt ambassador

Dr. Chen Ling
Director of JSTRI
Professor level senior engineer, Famous expert of asphalt pavement

Mr. Hao Li
Senior Engineer, RCE, Deputy Dean of JSTRI,
Pavement maintenance and management Expert
<table>
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<tr>
<th>Awards</th>
<th>Year</th>
<th>Winning Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiangsu Province outstanding engineering consulting achievement award</td>
<td>2007</td>
<td>Study on Construction Technical Specifications of Expressway Asphalt Pavement in Jiangsu Province</td>
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<td></td>
<td>2008</td>
<td>Study on the Application of Rubber Asphalt in Expressway proje</td>
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<td></td>
<td>2015</td>
<td>Long - term observation of service performance of research section of asphalt pavement of expressway in Jiangsu province</td>
</tr>
<tr>
<td>China Highway Society Science and Technology Award</td>
<td>2009</td>
<td>Study on Management and Key Technology of Extension Project of Jiangsu Section of Huning Expressway</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>Research on Technology Integration of Superpave</td>
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<tr>
<td></td>
<td>2012</td>
<td>Study on Key Technology of Long - span Steel Deck Pavement Maintenance</td>
</tr>
<tr>
<td>Scientific Research Outstanding Achievement Award (S&amp;T) - Technology</td>
<td>2014</td>
<td>Key Technology and Equipment for High Efficiency Recycling of Highway Asphalt Pavement</td>
</tr>
<tr>
<td>Invention Award first prize</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guizhou Provinicial Highway Institute Award</td>
<td>2016</td>
<td>Study on Preventive Maintenance System of Main Road Surface in Guizhou Province</td>
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四  International Communication & Cooperation
Main Service—Full life cycle service for road construction and preservation

- Technical Consultation for road construction
- Pavement Preservation Technology Research
- Pavement testing and evaluation
- Forensic Study
- Maintenance and Rehabilitation Design
- Technical support during implementation
- New material R&D and Industrialization
Development and Application of New Road Materials

**High performance and high modulus asphalt**

**High viscosity and high elastic asphalt**

**Waterborne epoxy asphalt**

**Novasurfacing**

**High-performance cold feed**

**Poly phosphoric acid modified asphalt**

**Trackless tack coat**

**Low-volume mixing plant heat regeneration**

**Warm mix rubber asphalt**

**High-volume mixing plant heat regeneration**

**High stability temperature method of rubber asphalt**

**Medium temperature mixing technology**

**Self-cleaning drainage asphalt pavement**

**Degradation of vehicle exhaust pavement**

**Multifunctional cool pavement**

**Large Clearance Noise Reduction Asphalt Pavement**

**High elastic rubber noise reduction pavement**

**Resin quick curing material**
National Lab of Advanced Road Material (NLARM)

The largest pavement research laboratory in China

<table>
<thead>
<tr>
<th>Functional area</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area ( m² )</td>
<td>2224.6</td>
<td>810</td>
<td>603.3</td>
<td>602.7</td>
<td>4240.6</td>
</tr>
</tbody>
</table>

- **A**: Normal testing
- **B**: New material R&D
- **C**: Performance test
- **D**: Accelerated pavement testing/MLS
• Advanced instrument and equipment

- 1st Full SHRP Apparatus (The first set of equipment in China)
- 1st Gyratory Compactor (The first set of equipment in China)
- NAT
- Full set of French Mix Design Equipment
- UTM100
Test Capability

MLS
Pavement Investigation Equipment

The most complete equipment in China

ARAN9000 Road Distress Auto Inspection Vehicle

Side force coefficient vehicle (SCRIM)

Portable FWD

FWD

GPR

LPS-T

Longitudinal force coefficient vehicle
• **TEST EQUIPMENTS OF EMULSION**

- Emulsified asphalt colloid mill, lab and pilot equipment
- Laser particle size analyzer
- DSR
- BBR
- Brookfield viscometer
- ...
• **AMRL Comparison Test**

  - AMRL Proficiency Sample Program
    - Performance Graded of Asphalt Binder
    - Gyratory tests
    - Coarse Aggregate test
    - Emulsified asphalt test samples from 2016
      - Evaporated Residue
      - Distilled Residue
      - Saybolt Viscosity
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International Cooperation

- The Federal Highway Administration—FHWA (U.S)
- Western Research Institute (U.S)
- Applied Research Association—ARA (U.S)
- FP2、NCCP、NCAT、LSU、TTI、ISSA
- IFSTAR (Past LCPC) (France)
- Transport Research Laboratory—TRL (UK)
- Bundesanstalt Fur Strassenwesen—BAST (Germany)
- National de Controle Technique des travaux Publics—CTTP (Algeria)
- Kazakhstan transportation research institute .JSC—KazdoNII (Kazakhstan)
<table>
<thead>
<tr>
<th>序号</th>
<th>Project Source</th>
<th>Project Name</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kazakhstan</td>
<td>TKU&amp;UD highway reconstruction project center laboratory</td>
<td>2016-</td>
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<td></td>
<td></td>
<td>Algeria East-West high-speed technical advisory services and in France and the United States comparative analysis of asphalt mixture design system</td>
<td>2009.7-2012.12</td>
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<tr>
<td>2</td>
<td>China CITIC - China Railway Construction Consortium Project</td>
<td>Research on establishment and application of key technology system of asphalt pavement in African Countries</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Ministry of Science and Technology International Science and Technology Cooperation Project</td>
<td>Assistance to Pakistan national highway network repair (N5, N55) project pavement structure gradation optimization design consultation</td>
<td>2014.8-now</td>
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</tbody>
</table>
Improve Preservation

Quality and Best Practice

Latest Research, Best Practice and Live demonstration

June 8-9th, 2017

Xuzhou, China

http://slurry.org/