Home Innovation Research Labs

- Founded in 1964 as wholly-owned subsidiary of NAHB
- Independent, for-profit researchers assisting development and commercialization of new building technologies
  - Engineering research & development
  - Market & field research
  - Laboratory testing
- #1 in green home building certification (NGBS)
- Building codes and standards developers
- Partners with ICC-ES to fast-track issuance of ESRs
Construction Spending

Source: NAHB / US Census
Top Trends Shaping the Building Materials Industry

- Skilled labor shortage
  - Cost of labor also increasing
  - Cycle time lengthened (from 6 months to 7 months to complete a home)
  - Industry environment favors easy-to-install and pre-finished materials
  - Conditions are right for some off-site housing solutions

- Construction materials costs increasing
  - Building products up 2 times CPI (4% in 2018)

- Lower availability of residential development property
  - Higher density suburbs (smaller and narrower lots, less privacy etc.)
  - Remodeling outlook very good—improve/expand instead of buy new

- More rigorous energy codes
  - Air tightness requirements of homes
  - Higher R-value + continuous insulation on exterior walls
  - Windows & HVAC systems—next in line for sweeping upgrades
Trends Shaping the Building Materials Industry

▪ Demographics
  ▪ Younger home owners/buyers—transitioning from renting
  ▪ Smaller, more affordable single family homes
  ▪ Population flow continues to South and West

▪ More durable products & materials continue to be favored

▪ Technology improvements
  ▪ Plastics with decorative + wear layers gaining much ground

▪ Design trends favoring simpler styles (more euro and urban) and contemporary design—primarily interiors but also exteriors
  ▪ Exteriors incorporate lines suggestive of traditional styles
  ▪ Wood, stone, concrete, and steel—with multiple textures on exterior
  ▪ Open floorplans still popular but defined living spaces
  ▪ Painted cabinets & wood floors in kitchen

▪ Blurring transition from indoor to outdoor living—window walls or lots of glass, upgraded outdoor living space
Basis for Presentation Data: Annual Building Product Tracking Studies

- Home Innovation has been tracking annual materials purchases since 1995
  - Builder Practices Survey of 1,600 U.S. Builders
  - Consumer Practices Survey of 100,000+ U.S. households
- Decades of custom market research, sponsored by hundreds of building materials manufacturers
- Support of development and launch of hundreds of new building products
U.S. New Housing Mix Trend
(based on annual housing units starts)

Source: Annual Builder Practices Reports and NAHB Housing Starts
U.S. Residential Housewrap Market in 2018 (millions of SF)

New Homes
- 2,368

Home Remodeling
- 1,809

About 4.2 billion square feet of wrap installed in 2018

Source: Annual Builder & Consumer Practices Reports
Regional Volumes of Housewrap by New Homes and Remodeling (2018)

Source: Annual Builder & Consumer Practices Reports
Shares of Housewrap Purchased by Pros and Do-It-Yourselfers (2018)

- Pro Purchased, 87%
- DIY Purchased, 13%

Source: Annual Builder & Consumer Practices Reports
New Home Shares of Housewrap by Type, 2018

- Mechanically-attached film, 64%
- Self-adhered film, 10%
- Fluid-applied, 3%
- Alternatives or none applied, 22%

Source: Annual Builder & Consumer Practices Reports
Housewrap by Price-Point and Type of Home (2018)

Source: Annual Builder & Consumer Practices Reports
Housewrap Use by Size of Single Family Home Builder (2018)

Source: Annual Builder & Consumer Practices Reports
Housewrap Role Width in New Home Installations (2018)

Source: Annual Builder & Consumer Practices Reports
Shares of Housewrap Reported in New Homes, 2018

DuPont Tyvek
TYPAR
DOW
All Others Combined
CertainTeed
Barricade Building Products
Green Guard / Kingspan
Owens Corning
REX Wrap
Perma R Products
James Hardie
Benjamin Obdyke
Grace / GCP
Grip-Rite
Kimberly-Clark
Tremco Barrier Solutions

Source: Annual Builder & Consumer Practices Reports
U.S. Home Market Size for **Roofing Underlayment** (millions of sf, 2018)

- **Traditional asphalt felt**
  - New Homes: [x]
  - Home Replacement/Remodel: [x]
- **Synthetic (nailed on)**
  - New Homes: [x]
  - Home Replacement/Remodel: [x]
- **Self-sticking (peel and stick)**
  - New Homes: [x]
  - Home Replacement/Remodel: [x]
- **None**
  - New Homes: [x]
  - Home Replacement/Remodel: [x]
- **Other**
  - New Homes: [x]
  - Home Replacement/Remodel: [x]

About 16 billion square feet of roofing underlayment were installed on home roofs in 2018.

Source: Annual Builder & Consumer Practices Reports