

ADVANCING TECHNOLOGY INTO THE MARKET

PHMSA & NAPS
Pipeline Research & Development Forum
July 18, 2012

Paul D. Wehnert
Vice President – Sales & Marketing
p.wehnert@heathus.com



HEATH CONSULTANTS

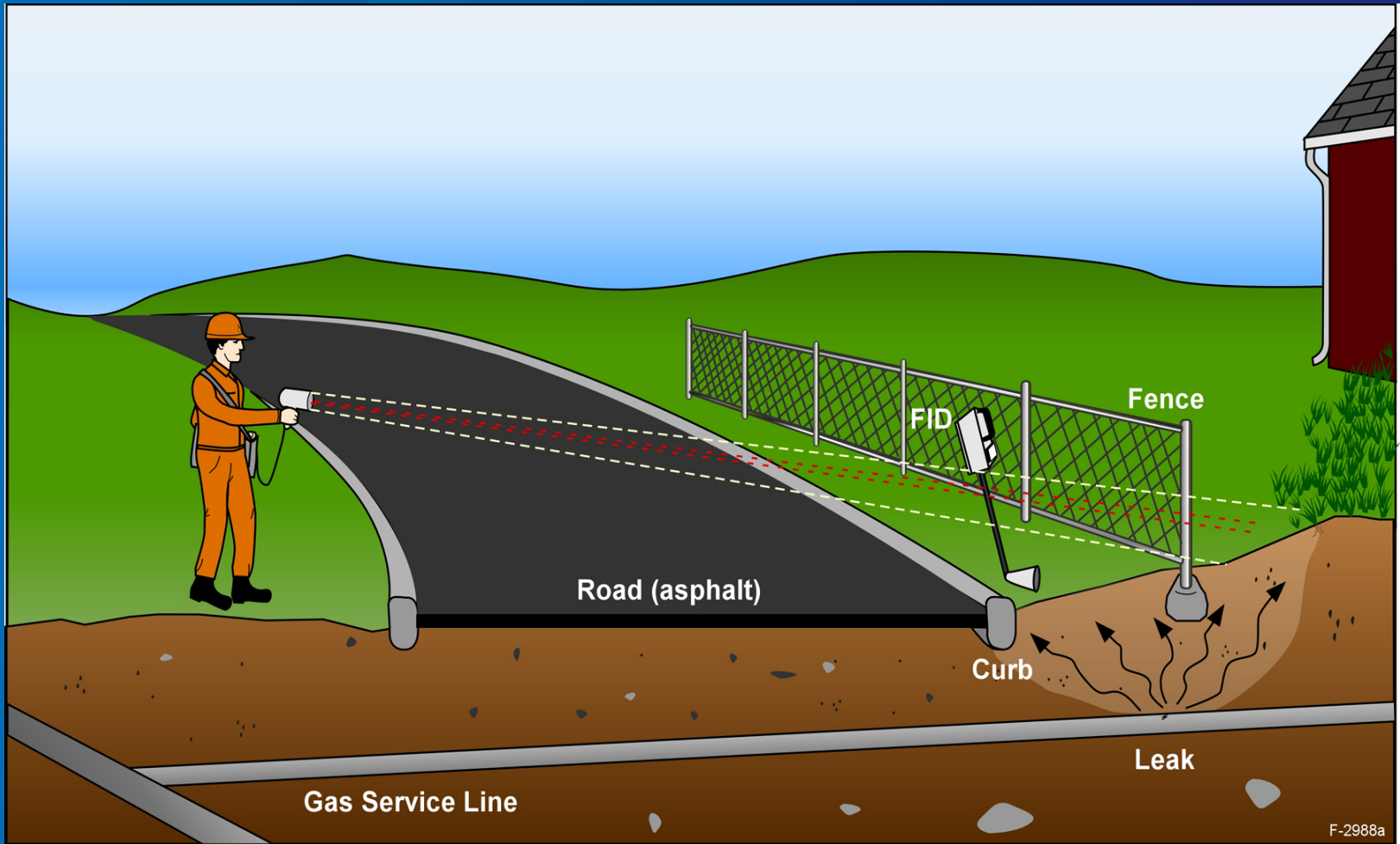
Remote Methane Leak Detector RMLD

Non-Intrinsic Safe Model

Intrinsic Safe Model



RMLD CONCEPT



Do not need to be in gas plume!

Technologist



- Physical Sciences Incorporated (PSI) - Andover, Massachusetts
- Established 1973
- Government & industry technology developer
- Small Business Innovation Research (SBIR) pivotal role in success of organization

Research Entity



- NYSEARCH is the Research & Development (R&D) organization of the Northeast Gas Association (NGA)
- Established 1973
- Based Parsippany, New Jersey
- NYSEARCH previously known as the New York Gas Group but now has membership across North America

Commercializer

- Heath Consultants Incorporated – Houston, Texas
- Established 1933
- Pioneer in the field of natural gas leak detection and locating field services
- Manufactures and distributes a wide range of utility leak and locating instruments

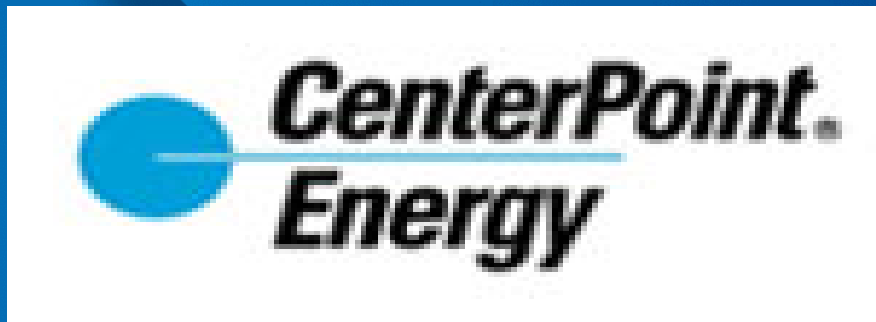
Keys to Successful Product Development

- Technologist was a proven leader in field of lasers and optical technologies
- Research entity brought industry and regulatory relationships to the early development table
- Commercializer was brought in early in the development process with vast knowledge in current leak detection technologies and regulatory compliance

Timeline

- Development started with EPA SBIR grant in late 2001
- Team of PSI, NYSEARCH members and Heath brought together for early product specifications
- Alpha, Beta prototypes, field testing, double blind studies
- Product commercialization late 2004
- Early product sales in 2005

R&D Contributors, Field Trial & Training Participants

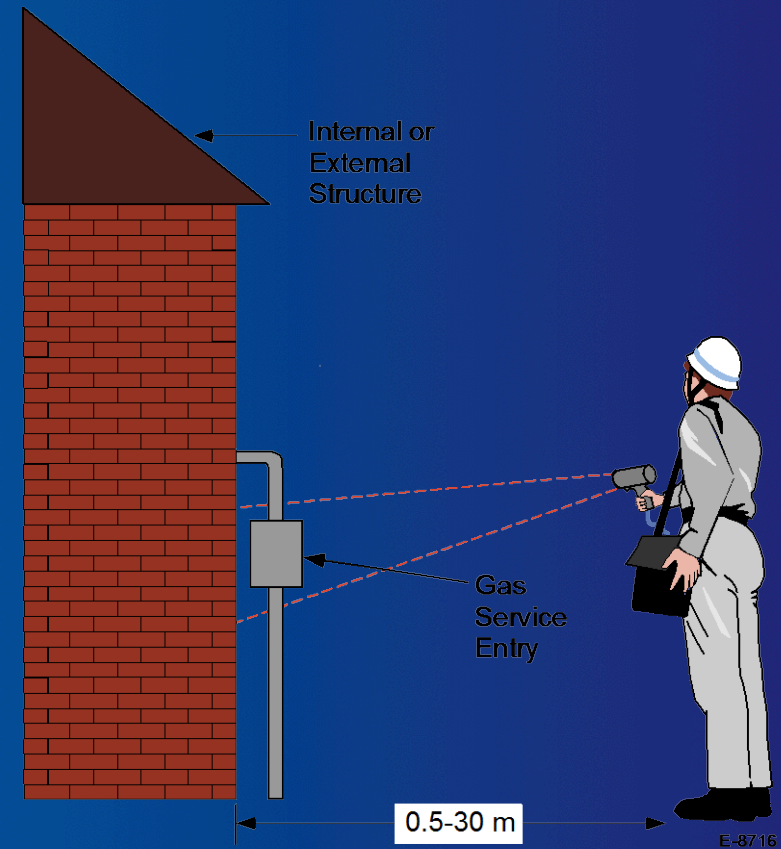


Remote Methane Leak Detector

Refined Goals

- Portable survey tool
 - up to 100 feet (30 meter) range
 - sensitivity ~ few ppm-m methane
 - response time 0.1 second
 - battery powered > 8 hr between recharging
 - eye safe
 - weight: controller and transceiver = 6.25 lb
 - rugged, splash proof
 - user interface
 - signal detect (valid)
 - concentration
 - alarm (audible, adjustable, LVL, VOL)
 - battery level
 - fault

Two section - hand-held transceiver/shoulder-sling controller



E-8716

New Technology vs. Existing

- New technology was compared to existing flame-ionization (FID)
- Must be at least as effective as current.
- Regulatory acceptance both Federal & State levels
- Gas Piping Technology Committee (GPTC) participation
- Double blind studies RMLD vs. FID

Beta Field Tests



Surveying Hard To Reach Area



Leak Evaluation After Survey

Innovation Winner



R&D Magazine Top
100 Innovations for
2005

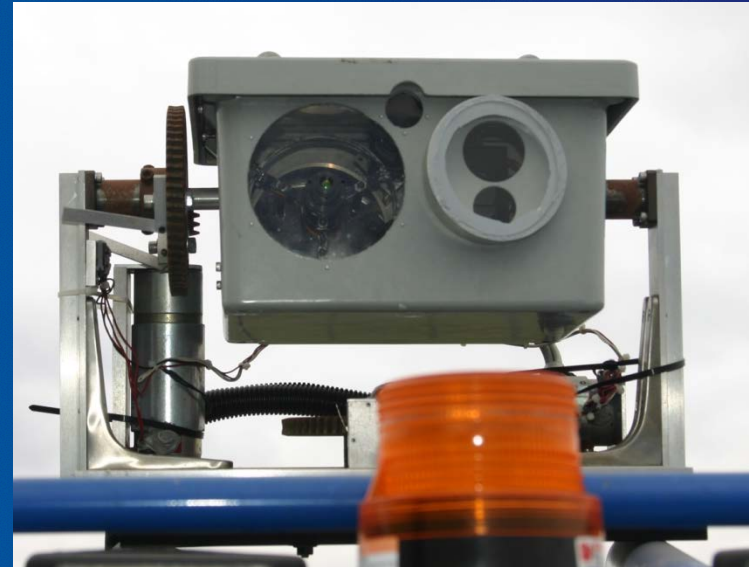
Future Development

- Mobile based platforms leveraging off existing technology platform
- Aerial based platforms leveraging off existing technology platform
- Current platform is methane specific but ongoing projects for other environmental component detection capabilities

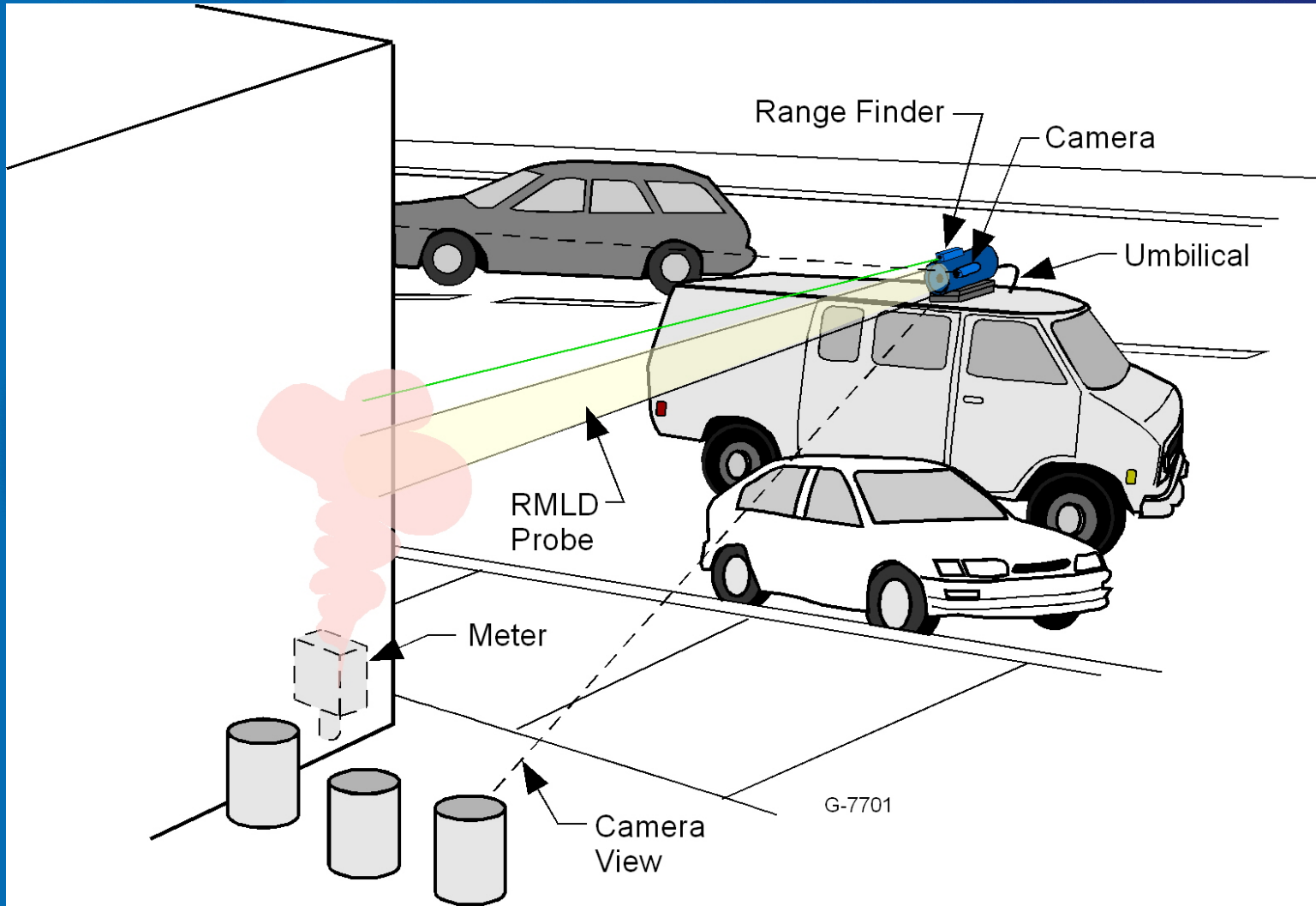
Mobile RMLD

- Effort currently under development for a mobile RMLD
- Ability to mount RMLD on vehicle to survey mains and services
- Video enhanced
- GPS / GIS applications
- Application for gas gathering, transmission and distribution

Mobile RMLD



Mobile RMLD



Aerial RMLD

- Must have unobstructed line of site
- Application for gathering and transmission rather than distribution
- Generally can fly fixed wing / helicopter at 500 – 1000 feet above the ground
- Ability to incorporate aerial photography / video for ROW of maintenance / compliance

Aerial RMLD



QUESTIONS?

HEATH CONSULTANTS