



Nexen Petroleum U.S.A., Inc.

| 945 Bunker Hill

| Houston, TX 77024

| 832.714.5000

| [www.nexencnooltd.com](http://www.nexencnooltd.com)

## Where is my data?

Andrea Le Pard

*2014 Esri Petroleum GIS Conference*

# Where is my data?

It's a dual purpose question...

Where is it?



Where is it?



# The problem

People were feeling like this....

What's here?



Do we have it?



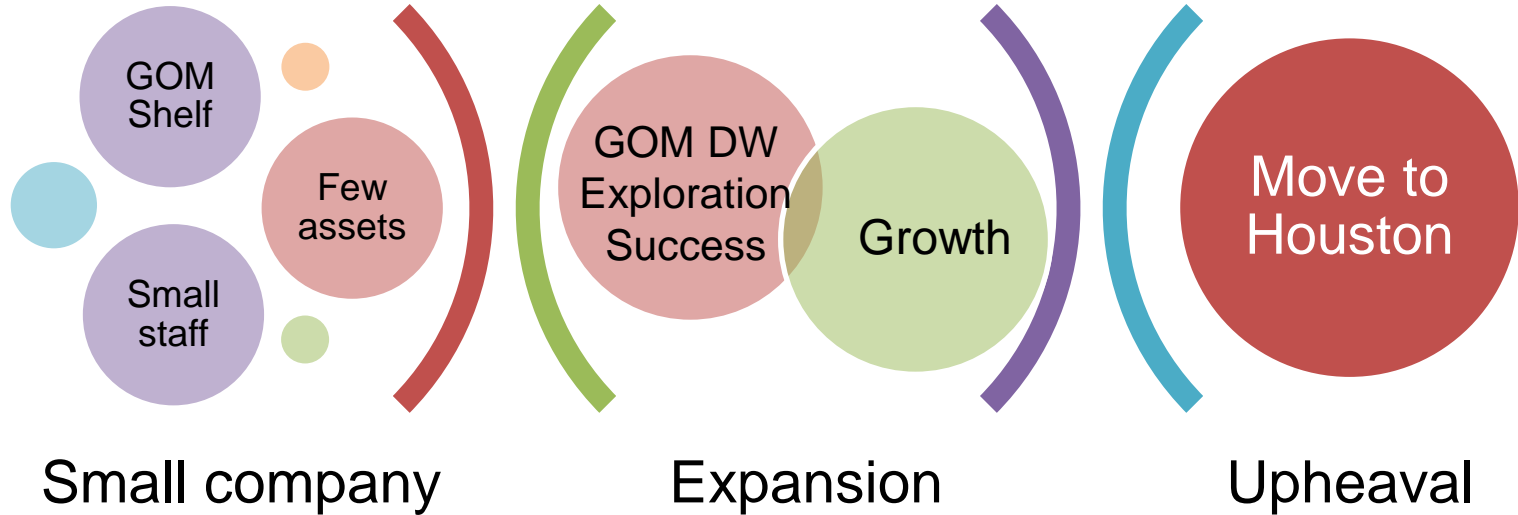
Where is it?



We might have data but...

- Can anyone confirm?
- Where is it?
- How do we get at it?
- Who has it?
- What is the quality?
- When was it last updated?
- Has it been modified?
- Do we need a subscription?

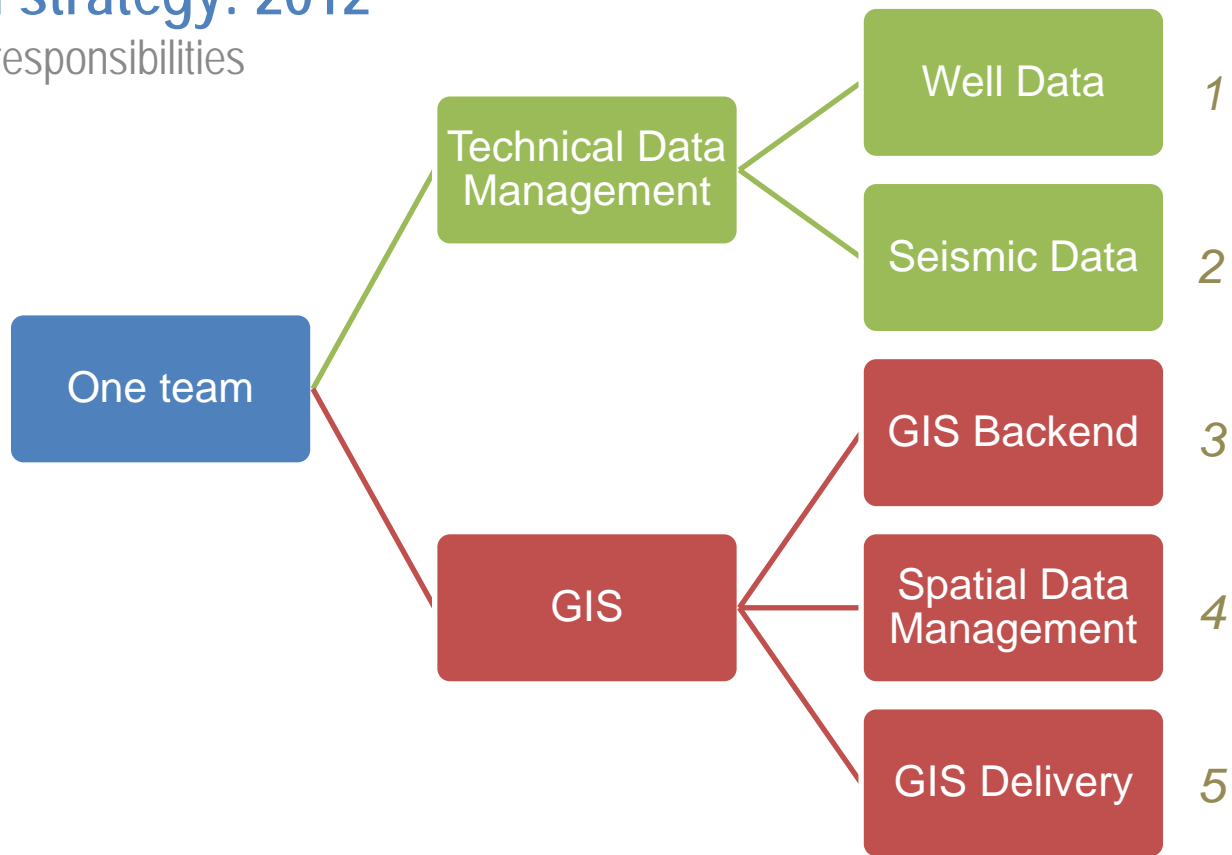
# What led to the data problems at Nexen USA?



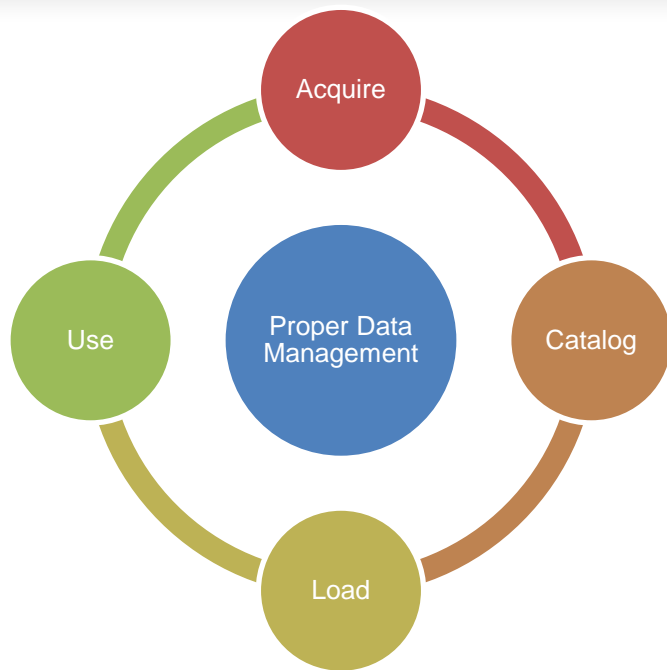
A continued lack of importance put on data management through all the change.

# New team strategy: 2012

One team, 5 responsibilities



# The mandate: Data Management & Governance



- We already managed seismic data quite well
- Had no system of record or governance for wells
- Had a small GIS team with very little business users (*no enterprise GIS*)



# Well Data Management

## Requirements

A well data system of record

PPDM industry standard

Focus on petrophysical data

Must start with well locations and get them right



# How to eat the elephant

One bite at a time, of course!

● Know what is most important to your business

- We had a real problem with log data
- Directional surveys are important to us as well
- Must have a well header (parent) to hang associated data on (child)
  
- Later... checkshots, paleo, core

# Get everyone talking and working together

Assemble a project team



Exploration, Development,  
Production, Petrophysics,  
Operations, Records,  
Data Management, GIS

# 4 Essential Requirements for Success

## Project Team Approach

### Communication

- Gather representatives from all business units
- Use of shared terminologies
- Report progress to the rest of the users

### Understanding

- Each other's needs
- The key aspects of data
- Necessity of having data managed

### Collaboration

- Combine requirements from all users
- Discuss the tidbits of data
- Derive a solution that works for all

### Optimization

- Data management processes
- The cost of managing the data
- Ease of data access

# Now let's talk seismic data

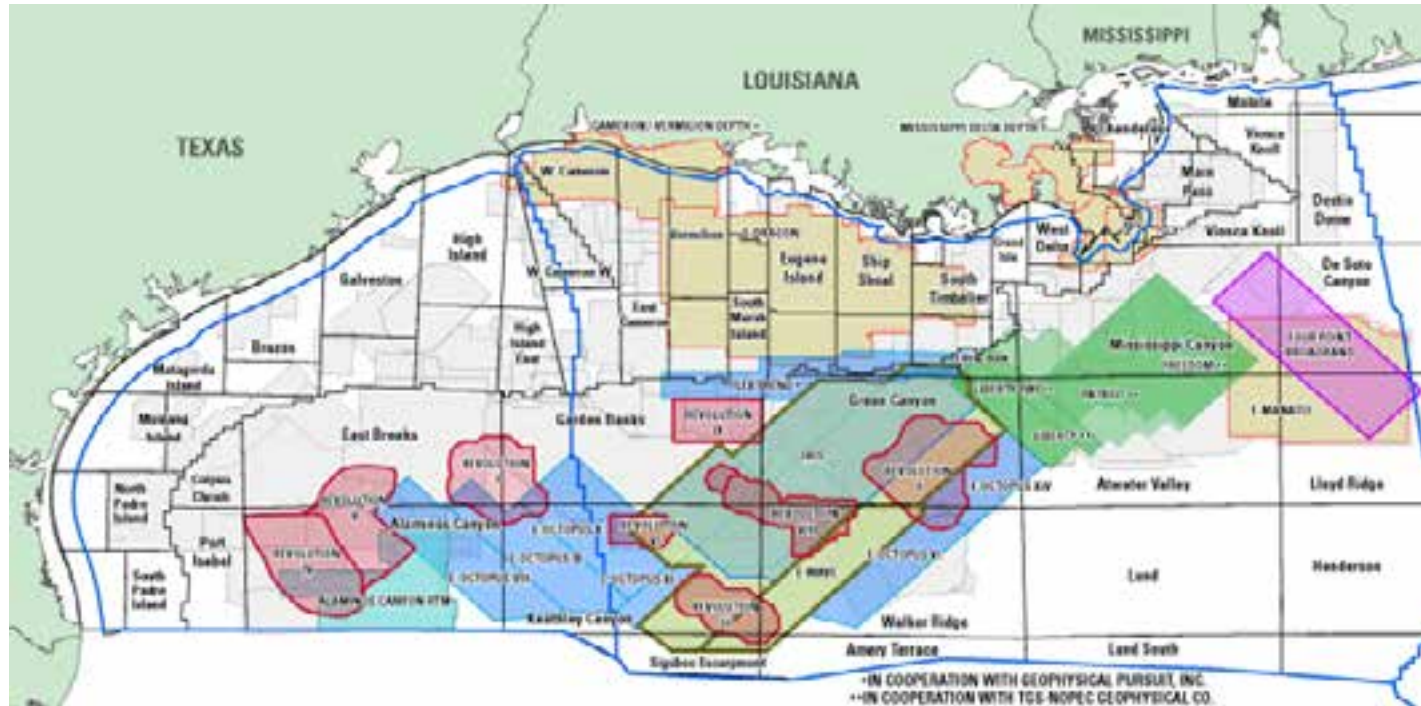


Image courtesy of SLB: <http://www.multiclient.slb.com/en/north-america/gulf-of-mexico.aspx>

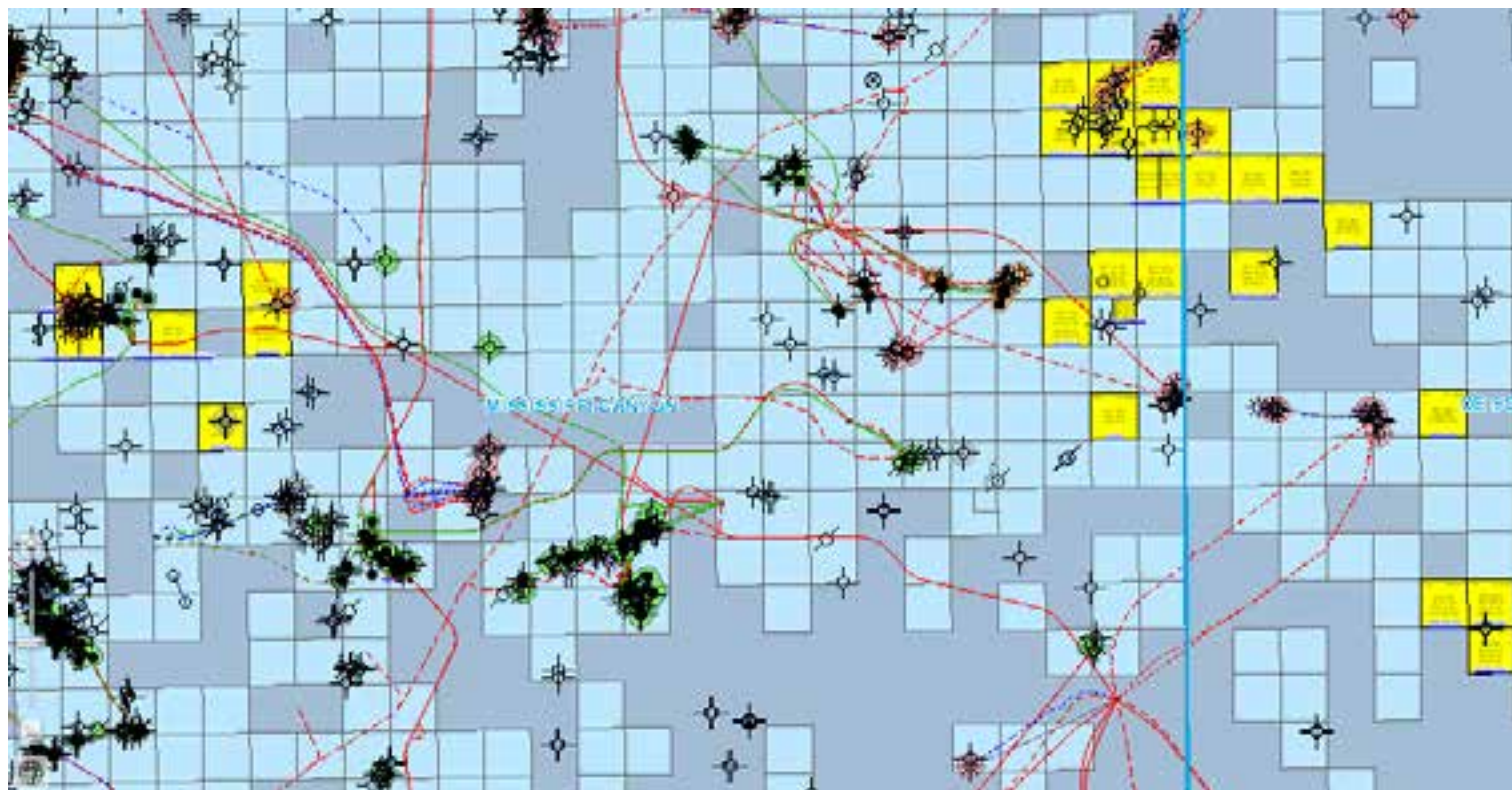
# Where exactly do we have seismic coverage?

And where is additional data available?

● Not easy questions to answer

- Seismic is a very different data type than the others:
  - File sizes are BIG
  - One survey can have multiple volumes of data
  - Each volume can be reprocessed multiple times using various techniques
- Know how your customers want to query and view the data
- Set up the data and symbology to match requirements

## Now let's talk geospatial



# Build an Enterprise GIS

What is required?

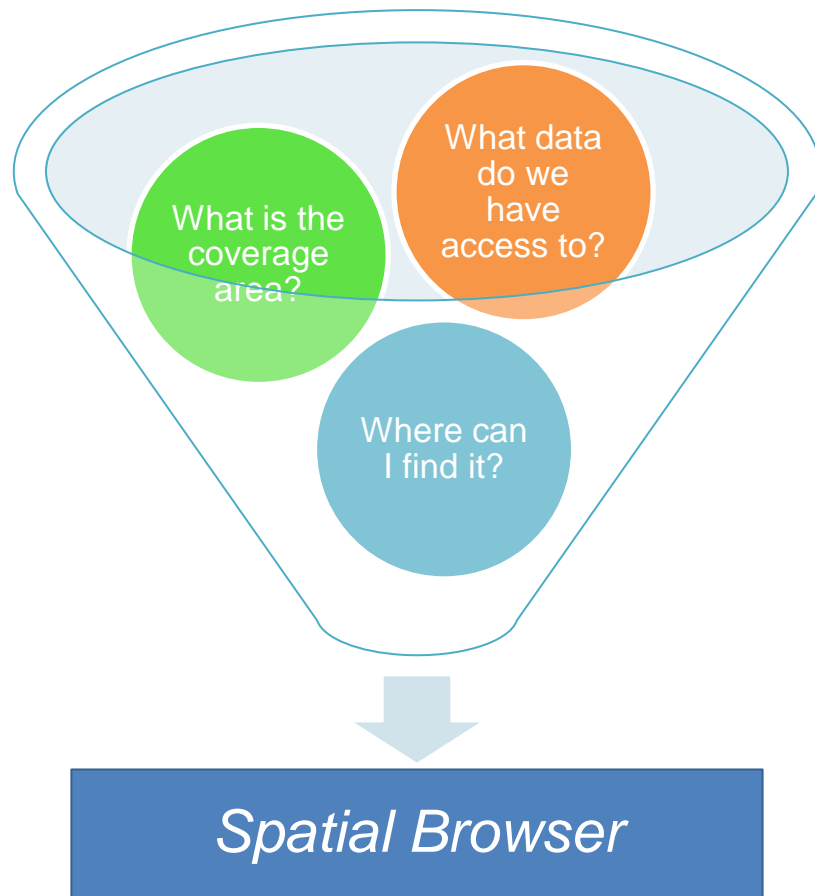
● Systems, data, processes and **people**

- **Staff:** How many? What roles? What skills?
- **Infrastructure:** Lay the right foundation
- **Data:** What do you have? What more do you need? How will you store it?
- **Access:** How does everyone tap into it?
- **Workflows:** What are the use cases? What are the standard work processes?

Use this base for the spatial browser

# Build the spatial browser

Three questions, one answer





# What is Nexen's spatial browser?



## One stop shop

- Web based application
- Data search and retrieval

## Integration

- Internal and external data
- Map and query based
- Hyperlinks out to web content

## Complete data warehouse

- Overview of Nexen's technical & commercial data
- Viewer for our well database

## Secure

- Permissioned by user
- Utilizes Active Directory
- Has an internal admin engine

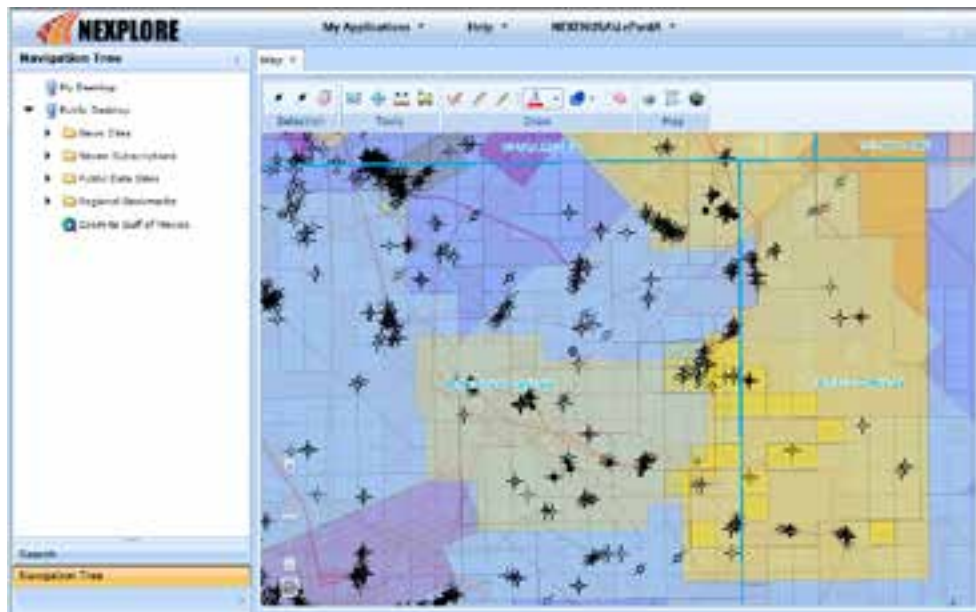
## Benefits of a spatial browser

- You can access all corporate data to which you are entitled
- You never have to ask “do we have a subscription to X?”
- You don’t waste time trying to find data in disparate locations
- You will be able to find spatially related data
- You can make more informed business decisions, more quickly

## Initial build

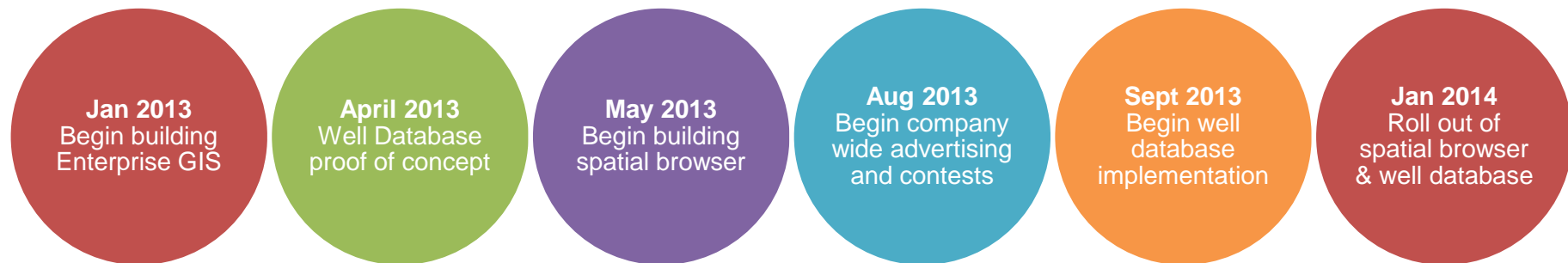
Deliver the “quick win”, grow it from there

- 62k+ well headers
- 52k+ directional surveys
- 1900+ Nexen logs
- 43 GIS layers:
  - Wells, Leases, Facilities, Hydrocarbon occurrences, culture, Esri basemap, seismic, geology, etc.
- 13 connections to external websites

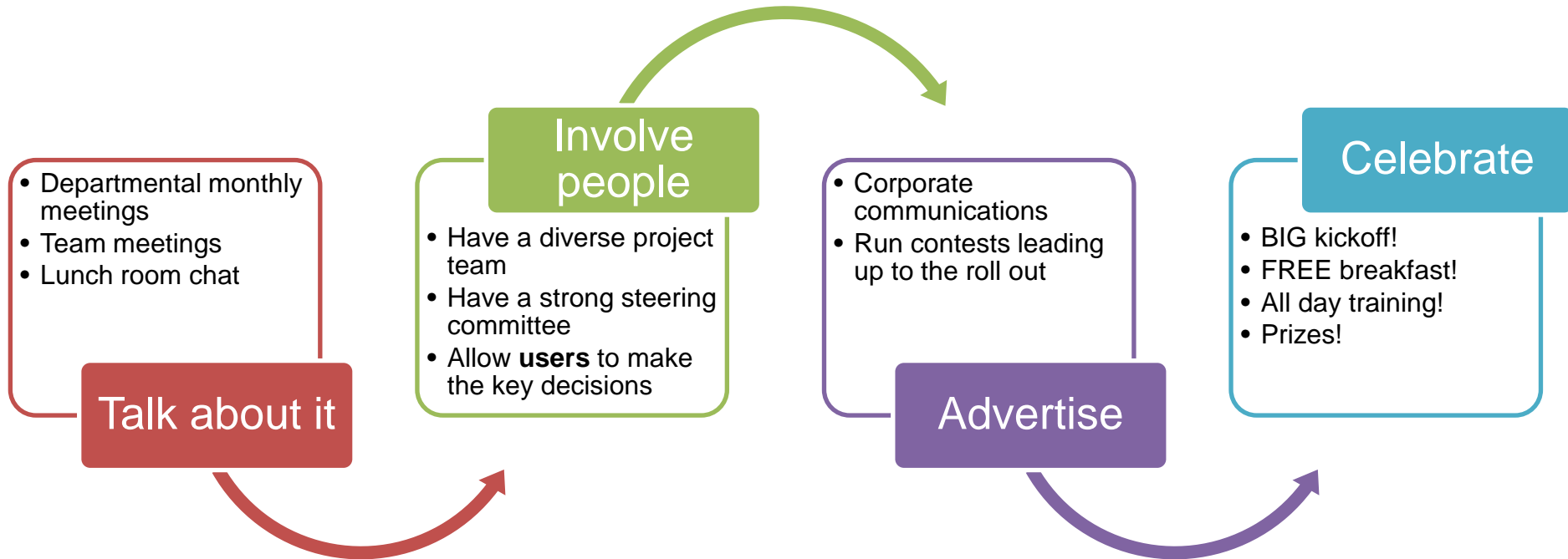


# Our timeline

How much can be accomplished in one year?



# Don't just build it. Build it up with excitement and they will come!





Nexen Petroleum U.S.A., Inc.

| 945 Bunker Hill

| Houston, TX 77024

| 832.714.5000

| [www.nexencnooltd.com](http://www.nexencnooltd.com)

# Thank you!

[Andrea.LePard@nexenusa.net](mailto:Andrea.LePard@nexenusa.net)