2010: A year for industry to bounce back

Dr. Pearse Lyons
President, Alltech
Are you ready for uncertain markets?
Once Upon a Time.
The greatest 4 words in any language

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Once upon a time:
A child imagined a future
But there was none
Once upon a time...

There was a world of water

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And then there was none
A thirsty world
Yet...
2 billion gallons of water is used on golf courses every day
While a little girl has to buy bags of water for 10 cents.
Once upon a time... we began to recognize greenhouse gases.
25% of species face extinction
And as the ice cap melts...

polar bears lose their habitat

And they float away...
1990 – 2005 the temperature of the world rose 0.2°C from global warming in the next decade we’ll rise another 2°C

- 6% more Ecoli
- 10% more Campylobacter
- Infections will rise
Once upon a time...

traceability in our food chain became the issue
Are we what we eat or what our animals ate?
and yet our meat supply becomes more and more contaminated...drug residues
A world of contamination

- Minerals contaminated with dioxins, PCBs and lead in 33% of all samples analyzed
Gulf oil spillage threatens to destroy our coastline

And we continue to compound our problems
But we **ignore** that this has been **happening** in the rest of the world **all along**...
A world of hope or a world of hopelessness?
In a the eyes of every mother it’s a world of hope

- A mother with 6 children
  - No education
  - Wanted something better for her children
Mothers see no brick wall they see a way around it
A world of opportunities not problems
Mothers invest in education
When I came to launch a company, my mother’s encouragement?

“What took you so long?”
And when that company hit a crisis as the rest of the world did
a world of...

- Rip offs
- Lay offs
- Madoff’s
Changing Lanes
NEXT EXIT

We embraced our people
In a time of crisis we

• Increased salaries by 9%
• Increased work force by 15%
• Entered 10 new countries
• Did 3 times more capital investments
• Reduced debt by 30%
All at a time of crisis
We doubled our Profitability
Why?
The company is built on a foundation of Education & Imagination.
Built on technology
“What is holding you back” from embracing technology?
Technologies

- Gene Chip
- Algae
- SSF
- Protected minerals
- Yeast derived products
- Genomics
- Nanotechnology
- Mass Spectometry
These technologies will enable us to convert problems into opportunities.
What can we do to reduce pollution and give full traceability?

- Performance
  - Environment
  - Q+ Assured
And how has biotechnology allowed us to tackle mycotoxins?
Here’s How...
15 PhDs theses
18 Masters theses
3 patents
55 Peer reviewed papers
Greenhouse Gases
“What took you so long?”
There was another time when the world was full of Greenhouse gases

3.7 Billion years ago

$\text{CO}_2 + \text{CH}_4 + \text{heat} = \text{Algae}$

$\text{Algae} \rightarrow \text{Oxygen}$

Our world today
A single algal cell may create a million offspring in a day.

- Basis of life
- 1 ton of algae collects 2 tons of CO$_2$
This is the future of Algae

Opening August 1st, 2010 -
Alltech’s new Algae Factory
- 1.5 Million liters capacity
How can we create new solutions?

By embracing new technologies
The source of many revolutionary new products and techniques
How can we redefine nutrition?
Farm to Fork Security?
Revolutionary approaches to Traceability
Of course we can because of the gene chip
What is the Gene Chip?
It’s a laboratory on a plate — An animal on a plate

*in vitro* testing *in silico* analysis

- Cancer
- ReproTox
- DevTox
- NeuroTox
- PulmonaryTox
- ImmunoTox

HTS - *omics*  
Bioinformatics/ Machine Learning

(EPA, 2007)
Everything time that we eat something it makes a unique fingerprint on our genes.
Some genes are up regulated and some are down regulated

This is a typical example:

- **Red** means up regulated
- **Green** means down regulated
- **Blue** little happens
Identifying the agent from the gene fingerprint

Known Agents and their genetic fingerprints

- Oxidant Stressors
- Polycyclic Aromatic Hydrocarbons
- Peroxisome Proliferators

unidentified Compound is identified

Raw Data

Toxicant Signature

Match

No Match

(NIEHS, 2005)
• Identify what that ingredient is in real time
• Can predict the effect of a certain ingredient
• It can be traced
Moving towards a molecular Barcoding 
the security of the entire food chain:

*It is not just a dream, but a necessary component of sustainability*
Can we imagine an Alltech Institute of Traceability
Now we are starting to build a predictable new future based on natural sciences.
With unlimited opportunities

$500 million

$1 billion

$2 billion

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As we address some of the world’s opportunities...
This is just the beginning
None of this is any good unless we brand.
Our industry needs to learn how to brand

**Coke**
- Full of sugar
- Rots teeth
- Can rust nails
- Causes diabetes
- Causes obesity
- Zero nutritional value

**The Real Thing?**

**Milk**
- Full of calcium
- Full of Protein
- Natures ideal food
- Excellent nutritional value
- Capable of being enhanced

**The “Real” Real Thing**

$4.39/ gallon

$2.69/ 1 gal.

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How to launch a brand

You avail of the opportunities that you are given
A few short months ago the world was watching the Olympics...
And on September 25th, 2010
The world will be watching us!

“The largest sporting event to come to the US since the 2002 Winter Olympic Games”

Alltech FEI World Equestrian Games™
Kentucky 2010

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We started with 1000 days out

94 days to go

Alltech FEI World Equestrian Games™
Kentucky 2010
What has this done for us?
“Has altered the way that the world looks at agriculture and the way that Agriculture looks at the itself”

- Damien McLoughlin, April 2010
The Challenges are your opportunities
Are you ready?

- Embrace Change
- Be ready for change
  - Education
  - Research
  - Speed
- Brand
MONDAY MORNING
Call to Action

• Be at the Alltech Games
  - Show agricultures best face

• KidZone
  - The pipeline to the future

• Address problems
  - Peta
Thank you