

American Chemical Society



ACS's Entrepreneurship Initiative

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ACS President-Elect 2013

In 2010, then ACS President Joseph Francisco established a task force to study innovation and job creation within the chemical enterprise. Dr. Francisco's charge to the task force:

- Explore root causes for historic job losses and recommend ways that ACS can stimulate innovation
- Identify specific ways that ACS can create high-paying, sustainable US-based jobs for chemists and allied science-based professionals

In 2010, then ACS President Joseph Francisco assembled a task force of eminent scientists and charged them with coming up with actionable recommendations toward better assisting chemical entrepreneurs.

Joe provided the task force with clear “marching” orders to determine:

[CLICK] What were the root causes were for these historic job losses?

[CLICK] And what specific actions could ACS undertake to stem this tide, and help the chemical enterprise restore its leadership in product development.

Examples of Task Force Questions

Does society have all the chemistry it needs?

What is happening to the chemists job market?

How will new chemist jobs be created?

These were several of the more probing questions addressed by the task force members.

Key Findings



- Less disruptive innovation is occurring.
- R&D expenditures are shifting from large companies to small businesses.
- About 300,000 U.S.-based chemists jobs have been lost over the last 20 years.
- Start-ups have created the most new U.S.-based jobs in the last 25 years or so.

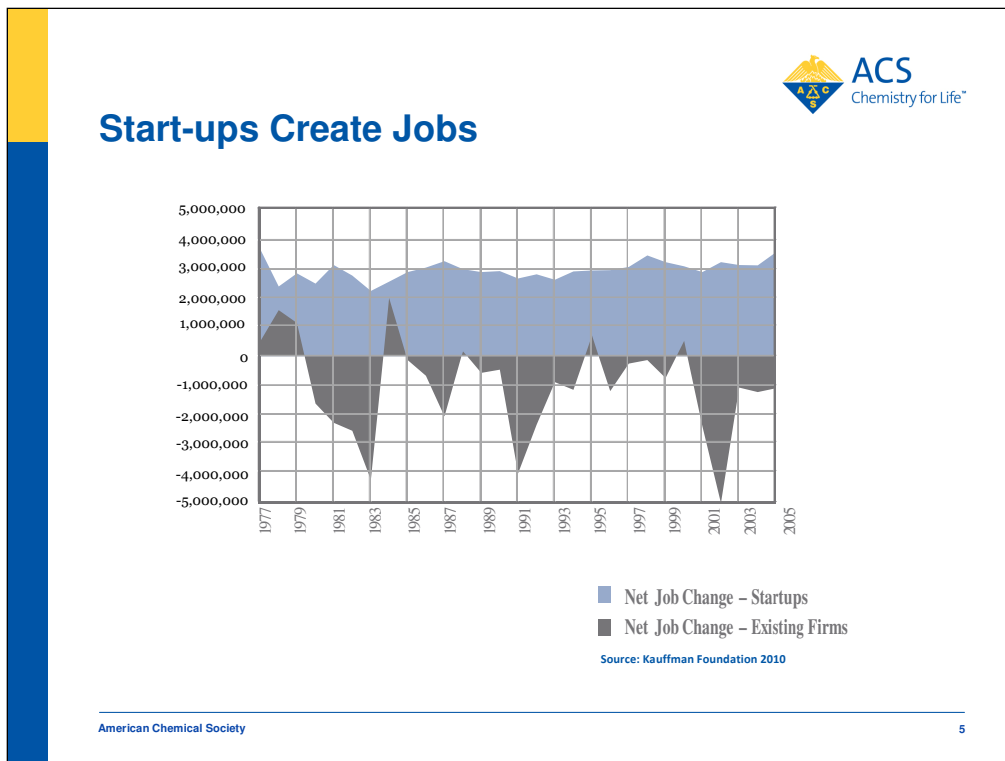
4 key findings by the task force:

1. Less disruptive innovation is occurring.

We are still inventing and being creative, but not innovating in a way that brings market-changing products to the marketplace at our prior pace.

2. More & more of R&D being done by startups.

3. 300,000 jobs lost **4. Most new jobs in U.S. created by start-ups**



Kauffman Foundation confirmed that startups provide new jobs across all industries (blue) - and existing firms – shown in grey – are sources of job loss.

This is a confusing slide as the job losses come only from the chemical industry, while the job gains above are from all startups including chemistry.

Task Force Recommendations

1. Help entrepreneurs create jobs by facilitating more affordable access to resources like information, expertise, key services, and mentorship
2. Improve the business environment for startups by increasing advocacy of relevant policies at the federal and state levels
3. Partner with academic institutions to promote awareness of career options that involve entrepreneurship
4. Publicize the challenges and successes of entrepreneurs and entrepreneurship in the chemical enterprise

Ultimately, the Task Force recommended to ACS that it:

1. Help entrepreneurs with resources to launch and grow start-ups
2. Improve their business climate through policy initiatives
3. Increase their numbers through education as a viable career option
4. Publicize their efforts, broadly speaking

ACS Response to Date

Thrust 1 Access to Resources

Promote Entrepreneurship

ACS ENTREPRENEURSHIP INITIATIVE*

- 1. Entrepreneur Training Program**
 - "Budding" Chemical Entrepreneurs
 - ACS Information (PUBS/CAS)
- 2. Entrepreneur Resources Center**
 - Seasoned Chemical Entrepreneurs
 - ACS Information (PUBS/CAS)
 - ACS Key Service Providers
 - ACS Network of Mentors
 - Introductions to Capital
 - Common IP & Research Agreements

***Received the Summit Award from ASAE for positive change in America and the World**

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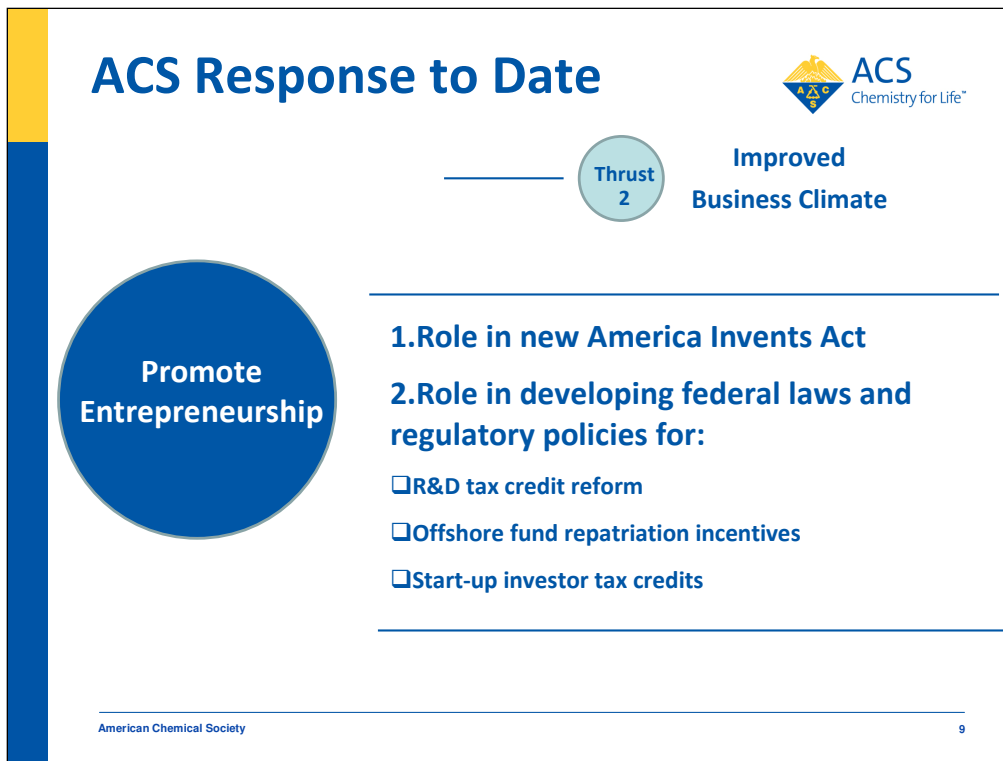
- In 2011, the ACS Board of Directors approved a two-year pilot program called the Entrepreneurship Initiative, for ACS members, the initiative has two key parts, the Entrepreneurial Training Program and the Entrepreneurial Resources Center.
- ACS has partnered with the Kauffman Foundation, a leading proponent of entrepreneurship. To date 29 member entrepreneurs have been granted \$500 stipend to offset Kauffman FastTrac course fees.
- Recently, 20 chemical start-ups were granted access to the Resources Center. In addition to ACS's information services, these companies will have access to the experienced chemical entrepreneurs as mentors, business advisors, and potential investors.
- All ACS entrepreneurs are provided with full access to all ACS Journals and CAS's SciFinder service at no cost under these programs.
- This initiative is currently in its 2nd year of a 2 year pilot. Are taking what has been learned thus far and refining the program to help chemical entrepreneurs better understand business operations and the business climate as well as how to de-risk their operations.

ACS Entrepreneurial Initiative Check out our Website !!



WWW.ACS.ORG/EI

- All the information about this initiative is on our website at WWW.ACS.ORG/EI
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- Chemical entrepreneurs now have a central location within the ACS Network to browse for news, find key professional service providers, get training, or otherwise obtain other valuable resources that can help advance their chemical start-ups.
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- The Chemical Entrepreneurs forum is designed to benefit all entrepreneurs, regardless of development stage.
- We encourage you to visit the ACS Network and choose “Chemical Entrepreneurs” from the “Your Profession” menu.



The slide features a blue and yellow header with the ACS logo and tagline 'Chemistry for Life'. The main title is 'ACS Response to Date'. A central graphic shows 'Thrust 2' in a circle, connected to 'Improved Business Climate'. A large blue circle on the left contains the text 'Promote Entrepreneurship'. The main content lists two roles: '1. Role in new America Invents Act' and '2. Role in developing federal laws and regulatory policies for:'. Under the second role, there are three unchecked checkboxes: 'R&D tax credit reform', 'Offshore fund repatriation incentives', and 'Start-up investor tax credits'. The footer includes 'American Chemical Society' and the number '9'.

ACS Response to Date

ACS
Chemistry for Life™

Thrust 2

Improved Business Climate

Promote Entrepreneurship

1. Role in new America Invents Act
2. Role in developing federal laws and regulatory policies for:
 - R&D tax credit reform
 - Offshore fund repatriation incentives
 - Start-up investor tax credits

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- ACS updated its business climate advocacy statement and advocacy agenda to engage in job creation legislation in Congress, like the enactment of the America Invents Act which converted the U.S. patent system from first-to-invent to first-to-file and harmonized the U.S. system with others around the world.
- ACS also recently joined the [R&D Tax Credit Coalition](#) to work with 100 other organizations and associations toward a permanent, strengthened R&D tax credit
- ACS has embarked on creating more alliances with notable organizations such as the American Chemistry Council, Angel Investors Association, Council on Competitiveness, National Venture Capital Association, and National Association of Manufacturers, to name a few.

ACS Response to Date

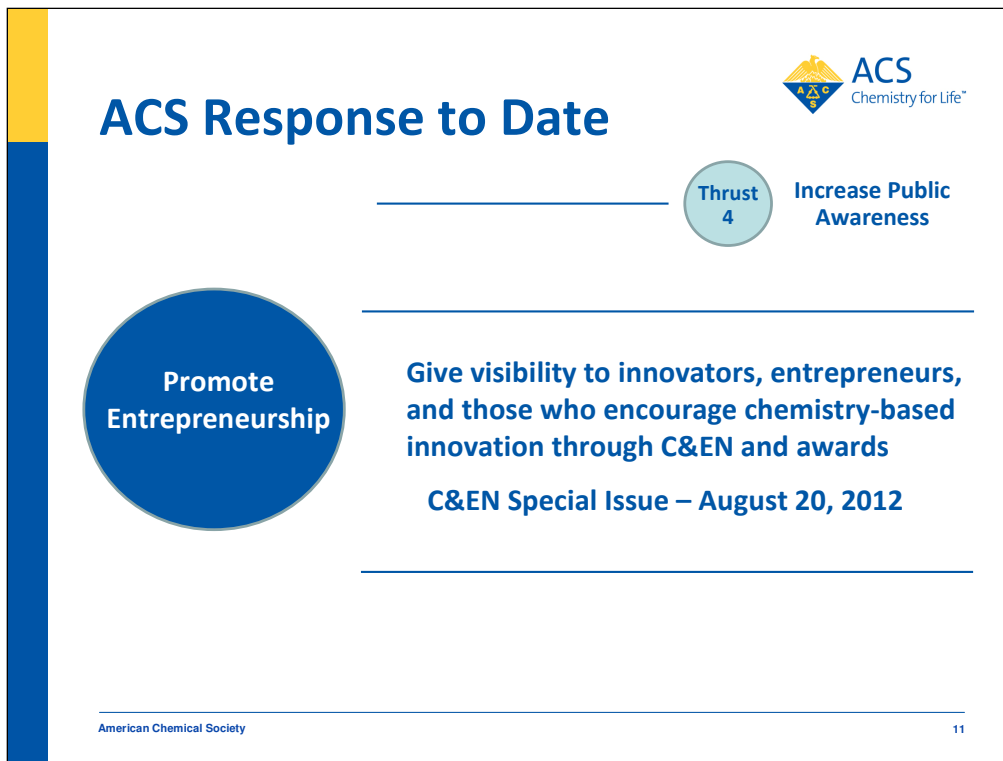


Thrust
3

Increased
Career
Awareness

Promote
Entrepreneurship

Partner with universities to teach
entrepreneurship as a career option,
e.g., ACS on Campus



The slide features a blue and yellow vertical bar on the left. The title 'ACS Response to Date' is in blue. The ACS logo is in the top right. A blue circle on the left contains the text 'Promote Entrepreneurship'. A light blue circle on the right contains 'Thrust 4'. To its right, the text 'Increase Public Awareness' is displayed. The main content area contains the text: 'Give visibility to innovators, entrepreneurs, and those who encourage chemistry-based innovation through C&EN and awards' followed by 'C&EN Special Issue – August 20, 2012'. The footer includes 'American Chemical Society' and the number '11'.

ACS Response to Date

ACS
Chemistry for Life™

Thrust
4

Increase Public
Awareness

Promote
Entrepreneurship

Give visibility to innovators, entrepreneurs,
and those who encourage chemistry-based
innovation through C&EN and awards

C&EN Special Issue – August 20, 2012

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- Chemical & Engineering News dedicated a special issue on August 20, 2012 to the plight of the chemical entrepreneur**
- CEN has continued this focus on chemical entrepreneurs in many of the subsequent issues.**

ACS Response – 2013 & Beyond

1. Pilot Entrepreneurship Initiative

- Entrepreneurial Training Program
- Entrepreneurial Resources Center

2. Chemical Entrepreneurship Series

- ACS Webinars
- Chats, Legal Basics, Finance Basics & more

3. Congress & Federal Agency Outreach

4. Summit Meeting of CEOs of U.S. Chemical Industries - 2014

- Let me start at the bottom with something that is part of my agenda for my presidential year of 2014.

- The ACS Chemical Entrepreneurship Series is expanding its webinars to include additional topics relevant to chemical entrepreneurs, including resources for legal and finance basics and chats with successful chemical entrepreneurs.

The screenshot displays the ACS Webinars website interface. At the top right is the ACS logo with the tagline 'Chemistry for Life'. The main heading is 'ACS Chemical Entrepreneurship Series'. Below this is a navigation bar with links: Home, Upcoming Features, On Demand, More Events, For Educators, and About ACS Webinars. A search box is located in the top right of the main content area. The featured content is for the '2012 Chemical Entrepreneurship Series' webinar on 'Jobs in Startups - Differences and Similarities to "Real" Companies' on April 5, 2012. The text describes the webinar's focus on gaining insights from industry professionals. An 'Events Calendar' on the right shows the date April 5, 2012, highlighted in blue. At the bottom left of the screenshot, the text 'American Chemical Society' is visible, and at the bottom right, the number '13' is present.

- ❑ **The ACS Webinars Chemical Entrepreneurship Series continues to grow in information offerings and popularity with industry professionals and entrepreneurs. The Series has received over 28,000 registrants.**
- ❑ **Since inception, the Series has expanded to include topics about legal and fiscal know-how, ideas evaluation, how to raise capital, as well as fireside chats featuring experienced chemical entrepreneurs.**
- ❑ **The ACS Webinars 2012 Chemical Entrepreneurship Series is co-produced with the ACS Chemical Entrepreneurship Council, a self-assembled group comprised of members of the ACS Division of Business Development and Management, the ACS Division of Small Chemical Businesses and the ACS Women Chemists Committee.**

The Future Outlook for Entrepreneurship



1. America Invents Act

- Changes U.S. patent system from a first-to-invent to a first-to-file
- Harmonizes U.S. patent filing system with other systems worldwide

2. Jumpstart Our Business Startups (JOBS) Act

- Lowers barriers to investing from traditional Accredited Investor requirements
- Encourages crowd source approach to financing start-ups

3. Private Crowdsourcing Portals emerging

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- it remains to be seen whether this legislation will ultimately benefit start-ups.**
- The recently enacted Jumpstarting Our Business Startups Act – better known as the JOBS Act – portends to bolster the start-ups access for seed funding. Until now, only “accredited investors”—a euphemism for that allowed people with specific incomes and assets only to invest privately in most startups and small companies. The JOBS Act will allow larger numbers of smaller investors to invest, and not just donate.**
- Portals such as CrowdCube in the UK are emerging that enable small investors to provide small amounts of funding in exchange for ownership stakes in startups. Significant SEC regulatory hurdles were removed by the JOBS Act.**

ACS Response – 2013 & Beyond (Cont'd)

- **KATHRYN C. HACH AWARD FOR ENTREPRENEURIAL SUCCESS**
 - ❑ recognize outstanding entrepreneurs who have created a commercially viable business within the chemical enterprise
 - ❑ positive impact on people's lives and the economy by creating chemistry jobs that produce a significant economic benefit
 - ❑ \$5,000 certificate
 - ❑ C&EN exposure

❑ We are especially pleased to announce the Kathryn C. Hach Award for Entrepreneurial Success, recognizing outstanding chemistry entrepreneurs.

❑ More on this award is available through www.ACS.org/EI

For more about ACS's Entrepreneurship

Initiative, please visit us at

www.acs.org/CreatingJobs

(ACS Presidential Task Force Report & Appendices
and other related information)

www.acs.org/EI

(Entrepreneurship Initiative)