



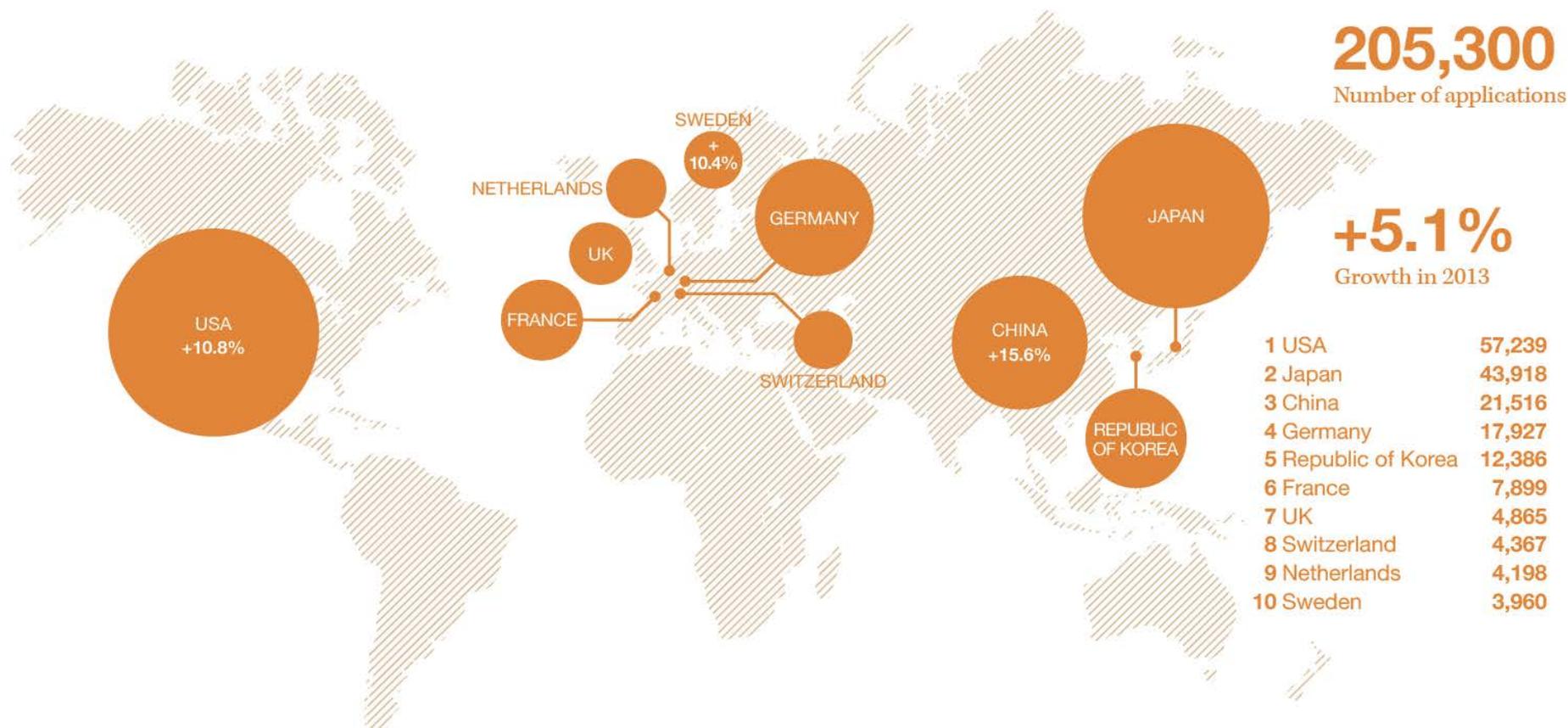
*SME IP Management and Development with  
Globally Distributed Innovation Teams –  
Challenges and Opportunities*

**FICPI World Congress  
Cape Town, South Africa  
April 2015**

**Dr. Rocco A Fiato  
Chief Technical Officer  
Accelerergy Corporation  
Houston, TX USA**

- Ever increasing/aggressive IP activity by major private and public entities
- SME's limited knowledge and experience in IP development
- Lack of clarity on value of IP with early/evolving SME business development and competitiveness strategies
- Tantalizing low cost “stealth” and “trade secret” strategies that require little effort and expenditure – but provide limited protection
- Frequently complex , costly and “user unfriendly” systems to establish IP
- Long gestation time from filing to issuance of granted patents
- Complex and costly legal procedures to prosecute and advance IP globally
- Widely varying/jurisdiction specific patent enforcement mechanisms

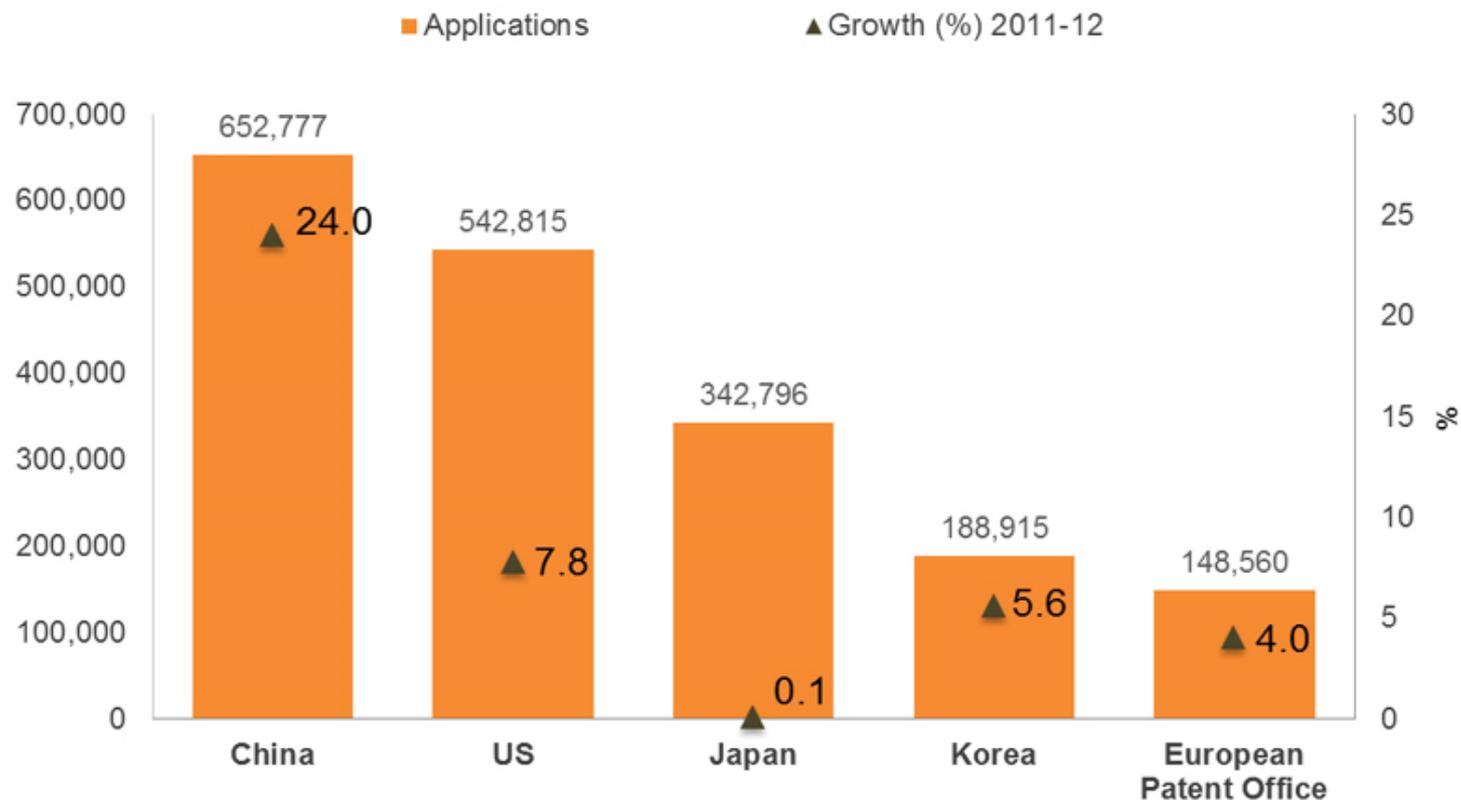
Accelergy's Experience and Other SME “Best Practice” Studies Helping to Develop Successful Strategies to Insure SME Competitiveness in Global IP Development



In Ever Increasing Numbers This IP Originates from Globally Distributed Teams Including Those from Small-Medium Sized Enterprises

# China's Importance to Global IP Development Is Clear – Providing Many Challenges to SME's Operating There

## Patent applications of the top five offices (2012)

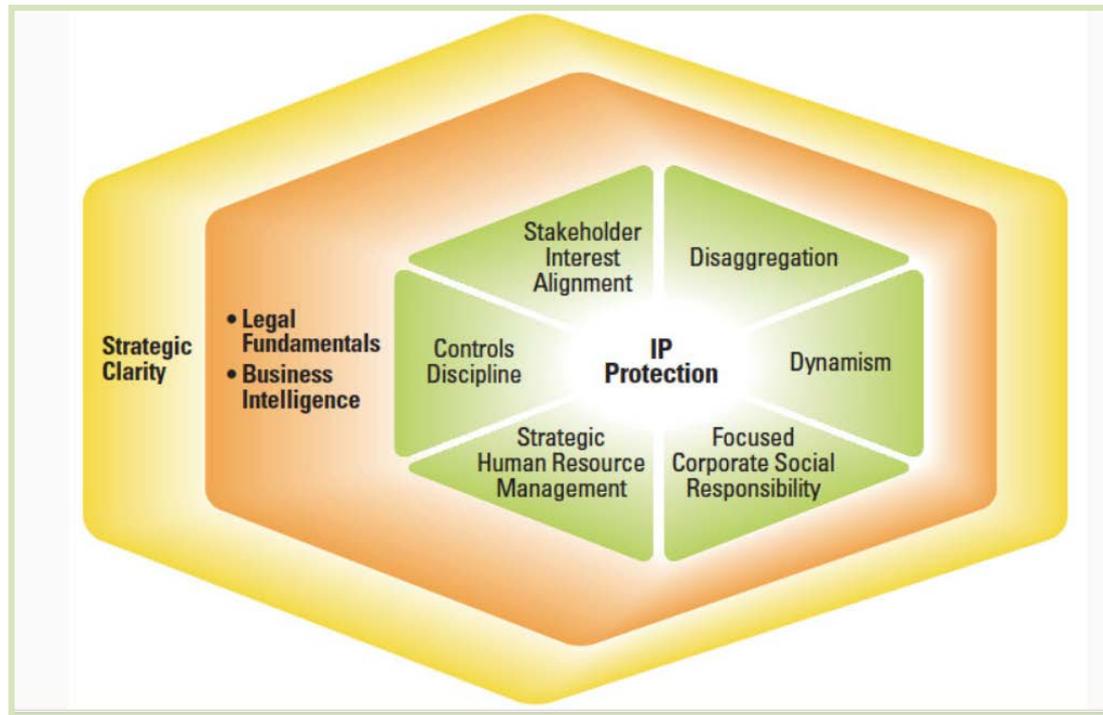


Source: WIPO Statistics Database

Patents	Publications	Know-how/Trade Secrets
Legally Protected Intellectual Property	Prior Art that Precludes Others from Patenting	Undisclosed IP Protected Only by “Secrecy”

- **Overall SME IP Strategy Must be Focused While Addressing Overall Corporate Objectives, Organizational, Legal and Business/Competitiveness Related Issues**
  - IP Developed from Multiple Jurisdictions/Cultures/Business Practices
  - Requires Special Attention to Secure Full/Sustainable Value
- **There Are No Simple “One Size Fits All” Answers – Requiring General Learnings and Approaches to be Tailored to Individual Needs**
- **Recent Studies in China, Europe, South Africa and US Provide Helpful Basic Insights and Guidance for SME Operated Programs with Globally Distributed Teams**

## Particularly When Operating with Globally Distributed IP Teams



Key Elements of External and Internal Practices for Successful IP Protection

## External Practices

- **Develop Strategic Clarity** That Defines Detailed Operational, Management, and Work Process Related Objectives and Approaches
- **Insure Overall Programmatic Alignment** Across Borders – Organizations – Working Groups
  - For China Insure Relations are Based Upon the Principle of “Guanxi” and the Importance of Reciprocity, Social Capital and Sustained Personal Relations
- **Establish Alliances with Strategic Partners** to Enhance Competitiveness
  - Selective Partnering with Industry Leading Companies and Government Labs

## Internal Practices

- **Disaggregate Processes and Work Systems** to Insure Compartmentalization and Information Sharing on a “Need to Know” Basis – e.g. Bayer China Innovation Model
- **Manage Human Resources/Local Teams** to Insure Planned Collaborations and Information Sharing (or Insulation) Across Organizational Boundaries
- **Insure Dynamism /Flexibility is Operative** in Pursuit of Solutions – IP Development – Market Responsiveness to Allow All Operating Units to Keep Pace with Competing IP Developments

- **AU Patent Office** – Marketing/Training/SME Development Programs
- **CH Patent Office** – Extended Search Tools and IP Assessment Modules
- **EU Patent Office** – Patent Information Centers and Workshops
- **US Patent Office** – Provisional Application Filing Option ; Bayh-Dole 1980 To Privatize Government Sponsored Research Output
- **Mexican Government** – Decentralization of National IP Office to More Proactive Regional Offices
- **Korean Government** – SME Partnership Initiatives for All Phases of IP Development
- **Enterprise Ireland** – Enterprise Development Systems
- **Spanish Center for Industrial Technology Development** – Low Interest Loans and Subsidies for Foreign Patent Filing Programs

# Accelergy's Evolving IP Portfolio is Being Leveraged with World Leading Technology & Service Providers

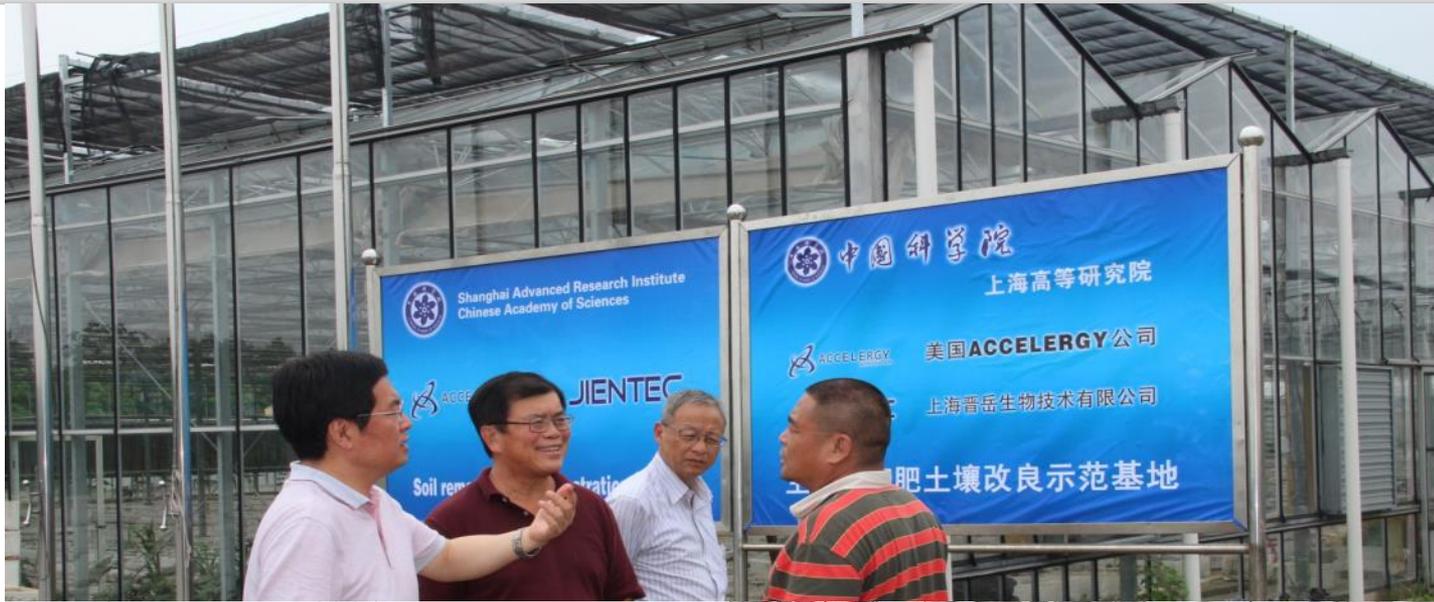


**Proprietary Integrated Process and Products Protected by Patents and "Exclusive" Alliance Agreements**



**Integration of Best In Class Technologies - Provides Innovative Combinations of Lowest Cost, Highest Value Technologies**

# Accelergy Chongming/Elion TerraSync™ Demonstration – BioFertilizer for Food Crops and Soil Reclamation



**Climate Controlled Greenhouse  
On Chongming Island**

**Elion Kubuqi Desert Field Station**





US 20140345341A1

(19) **United States**

(12) **Patent Application Publication**  
**Fiato et al.**

(10) **Pub. No.: US 2014/0345341 A1**  
 (43) **Pub. Date: Nov. 27, 2014**

(54) **INTEGRATED PROCESSES FOR PRODUCING FUELS AND BIOFERTILIZERS FROM BIOMASS AND PRODUCTS PRODUCED**

*C10G 1/06* (2006.01)  
*C05F 11/08* (2006.01)

(52) **U.S. Cl.**  
 CPC ..... *C05B 17/00* (2013.01); *C05F 11/08* (2013.01); *C05D 1/00* (2013.01); *C10G 1/06* (2013.01)

(71) Applicants: **Accelergy Corporation**, Houston, TX (US); **Shanghai Advanced Research Institute of the Chinese Academy of Science**, Pudong (CN)

USPC ..... 71/7; 71/6; 585/240

(72) Inventors: **Rocco A. Fiato**, Basking Ridge, NJ (US); **Yuhan Sun**, Pudong (CN); **Mark Allen**, Littleton, CO (US); **Quanyu Zhao**, Pudong (CN)

(57) **ABSTRACT**

(73) Assignees: **Accelergy Corporation**, Houston, TX (US); **Shanghai Advanced Research Institute of the Chinese Academy of Science**, Pudong (CN)

An IBTL system having a low GHG footprint for converting biomass to liquid fuels in which a biomass feed is converted to liquids by direct liquefaction and the liquids are upgraded to produce premium fuels. Biomass residues from the direct liquefaction, and optionally additional biomass is pyrolyzed to produce structured biochar, hydrogen for the liquefaction and upgrading, and CO<sub>2</sub> for conversion to algae, including blue green algae (cyanobacteria) in a photobioreactor (PBR). Produced algae and diazotrophic microorganisms are used to produce a biofertilizer that also contains structured biochar. The structured biochar acts as a nucleation agent for the algae in the PBR, as a absorption agent to absorb inorganics from the biomass feed to direct liquefaction or from the liquids produced thereby, and as a water retention agent in the biofertilizer. The ratio of cyanobacteria to diazotrophic microorganisms in the biofertilizer can be selected to optimize the so as to achieve desired total chemically active carbon and nitrogen contents in the soil for a given crop.

(21) Appl. No.: **14/286,800**

(22) Filed: **May 23, 2014**

**Related U.S. Application Data**

(60) Provisional application No. 61/855,789, filed on May 23, 2013.

**Publication Classification**

(51) **Int. Cl.**  
*C05B 17/00* (2006.01)  
*C05D 1/00* (2006.01)

## Accelergy SARI-CAS IP Program

**Joint Business and Technology Agreement Signed in 2011.**

**US and China Based Programs Proceeding in Parallel – With Selected Energy Industry Partners in Designated Fields.**

**Joint IP Team Decides to Patent, Publish or Maintain as Know-how.**

**US, China or PCT Filing Strategy Determined on Case by Case Basis.**

**Balanced Approach to Secure Competitive Advantage While Preparing for Selective Licensing.**

# TerraSync™ BioFertilizer for Organic Rice Production in China Now in Full Scale Field Tests



施用微藻有机肥

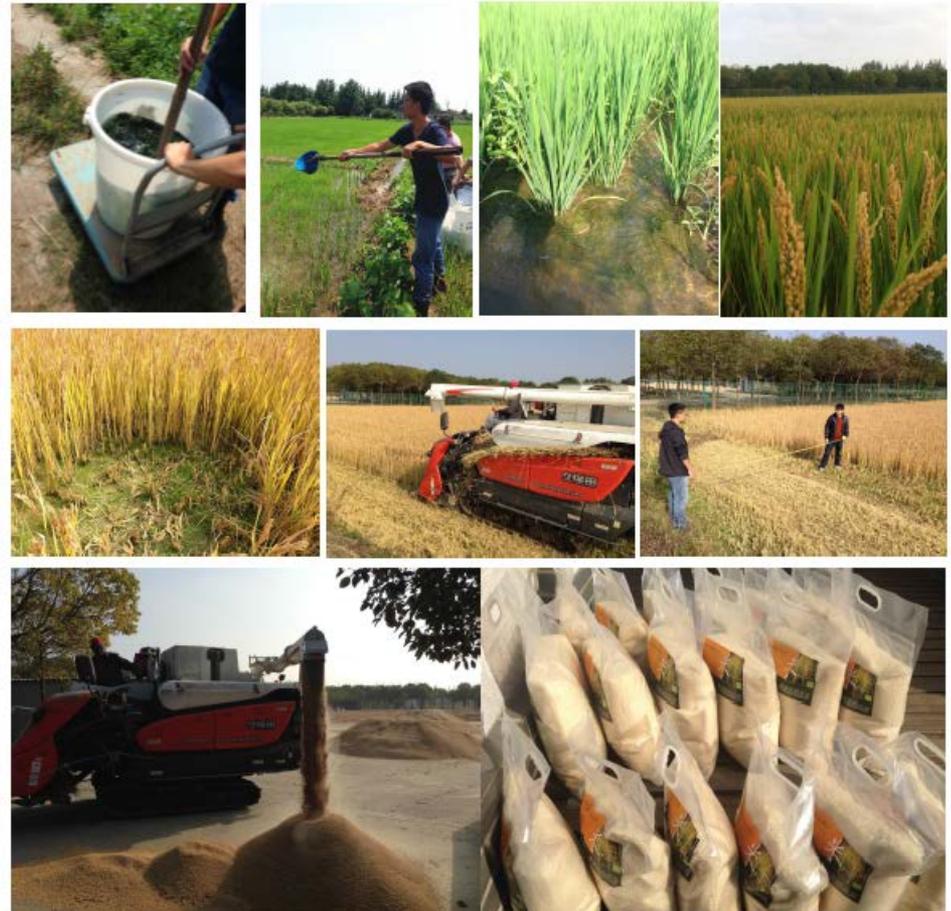
净重5公斤

保质期：6个月（常温）  
生产单位：上海晋岳生物工程有限公司  
生产地址：上海市崇明县竖新镇前卫村

生态崇明

中科院上海高等研究院微藻示范应用（中美合作）

SARI Accelergy JIENTEC 感谢您的品鉴



**Increased Yields of 15+% Per Acre**

**High Quality Organic Rice  
for Premium Market**

**Now Evaluating New Farming Practices  
To Maximize Long Term Benefits**