

SABPA 2017 Medical Device Forum

Technical Notes

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Welcome and Introductions

Kevin Shao, MBA, EVP of SABPA OC/LA, Chairman of Medical Device Forum

SABPA OC/LA Introduction

Huaina Li, PhD, President of SABPA OC/LA

Introduction of China Association of Medical Device Introduction And Overview and Trending of Medical Device Industry in China

Shan Xu, MBA,

Secretary General, China Association for Medical Devices Industry

介绍协会以及医疗器械产业在中国发展概况

全球医疗器械产值在医药行业总产值 42%，不再是配角

发达国家市场医疗器械与药品产值约为 1: 1，复合增速达 8.82%，远超传统行业

2016 年全球医疗器械排名，国内企业 5 家进入百强，2016 年超过 5500 亿人民币产值
全球化进程快速推进，监管压力增大

我国医疗器械产业创新发展现状

创新能力低，中低端产品多，仿制产品多，原创几乎没有
创新体系及配套政策欠缺

近期医疗器械产业国家政策综合影响

政策演变对行业发展的影响

研发投入增加，产业升级加快，知识产权重视，专利合作前景广阔，国际协同成为趋势
企业最佳途径：海外技术，中国制造，全球市场

Development of Medical Device

Keynote Speaker: Dr. Fan-Gang Zeng,

Professor, Otolaryngology, School of Medicine,

Director, Center for Hearing Research

University of California, Irvine

Neuromodulation: From commercialization to development to research

Neuromodulation is a technology that acts directly upon nerves, to treat disease or enhance brain functions

1. Invasive neuromodulation: \$8B market size annual revenue
2. Non-invasive neuromodulation: laser, optogenetics, ultrasonic, magnetic stimulation, electric stimulation
3. Huge market that is highly unregulated with unproven claims

Commercialization – cochlear implants

It is not a hearing aid, half a million users, 15M potential users, converse over the phone, develop language, \$2B revenue, \$10B cap, 10-15% annual growth rate

Commercialization:

Does your product meet a market need? Is the market ready? Are you ready?

Lesson learned, if you are a medical device startup – be a market follower

Development: Nurotron

R&D in Irvine with \$6M seed funding, many milestones made, may IPO in 2018

Lesson learned: be safe, avoid innovation traps, stick to your specifications

KISS principle: Keep it simple stupid

Research: Tinnitus or Ear ringing

20% of people experience it

health impact: anxiety, depression, insomnia, pain or even suicide

economic impact: \$26B annually, VA paid \$1.5B to 1M veterans

There is No cure, but cochlear implants can suppress tinnitus

Problem: most tinnitus sufferers have little to no hearing loss

Solution: non invasive neuromodulation

Where does electric current go in the head?

Electric current flows through the path with least resistance

When it comes to research: Be first, be systematic and be persistent

Leading Digital Dentistry – Vitang Technology

Innovative dental service based on cutting edge digital technologies

Who are we?

What is happening out there?

What can we do?

How can we do it?

When can we achieve it?

Company History – Founded in Tustin since 2014, Photosensitive resin manufacturer.

The R&D in the past years provide experience about how 3D printing technology applies in the dental field.

What is happening?

\$150B in total market size

150000 dentists, 120000 general dentists, 30000 specialty

Fastest growing segments: specialty

Implants \$10B in 5 years, orthodontics, endodontics, dental laboratories - \$6B in US

Technology trends in dentistry

Digital dentistry

Clinical CAD/CAM – 10% market share, intraoral scanning, crown milling

Laboratory – fast growing, 3D model imaging, crown and bridge designs and

Productions, delicate designs and fabrications, 3d models and surgical supporting devices, orthodontics

What can we do – Vitang's missions

Using cutting edge digital technologies to provide faster, more esthetics and more reliable dental services.

Three direction:

Orthodontics: clear aligners

Crowns and veneers

Supporting surgical units

What can we do? Orthodontics clear aligners

Fast growing, \$2B market in US, technology is ready to go

marketing targets: general dentists

Help general dentists to quickly align orthodontics, novel veneer with minimal invasion, 3D design and fabrication to help general dentists to perform implant procedure

Marketing 4Ps analysis: product, price, place, promotion

Finding Your Needle in a Haystack with IC3D Digital Droplet Technology

By Velox Biosystems

Dr. Byron Shen, CEO

Defining the future of rapid and sensitive diagnostic tests

Zhaolab @ UCIcalit2 techportal incubator

IC3D droplet digital detection

Take biological liquid, partition to microdroplets

If you have a rare target in a biological sample, how do you find it quickly?

Integrated comprehensive droplet digital detection (IC3D) animation 3D droplet counter

Advantages summary: sensitivity, speed, minimal processing

Broad opportunities

Key clinical applications – BSI/Sepsis

Blood culture takes too long 2-14 days for results

Liquid biopsy, less invasive than conventional biopsy

IC3D: rapid detection of Sepsis

Rapid diagnosis (1-2 hrs) with clinically actionable info for sepsis

Velox vs competition: Velox is much faster than competition

Leader as a Change Agent

Keynote Speaker: Dr. Peter Chen

Former president of Center for Innovation and Strategic Collaboration, St. Jude Medical.
Inc (Global R&D Center) Founder of Irvine Biomedical, Inc

The world is changing, the status quo is not an option during a fast changing world

Good to great – disciplined people, thought and action

Good example of medical technology changes

Cardiac pacemaker is one of the earliest and most successful medical devices

Over 60 years the pace makers have evolved a lot

Leader as a change agent

For a leader to merely articulate a vision isn't enough

It is a catalyst in making internal changes within an organization

What need to be changed first

1. Sense of urgency
2. Mindset
3. Building a cohesive team
4. Everyone is apart of changing process
5. Utilizing information and knowledge

Outlook of medical device industry in China

Opportunity

Huge market size and patient population

Rising incomes of patients

Low cost medical devices

Export opportunity

Innovation

New products for unmet clinical needs

New innovative products for Chinese market

Adapt cutting edge technology to device design

Change

Culture and operating practice

Product quality management

Market products to customers

Final thoughts

Many currently unmet clinical needs will be met

The outcome of patient treatment will be improved

The cost of treatment will be reduced

The quality of life of many patients will be significantly improved in the next decade

Heads up Checkups – Proactively Identifying and Treating Mental Health in Pediatrics and Adults

By Well Street Psychological Group Inc

Modern society creates mental health suffering
China has similar statistics but only 1/10 of the specialists to treat

Solution #1: Fast focused check and follow-up
Early identification and treatment: \$1 invested in prevention, \$5 saved in intervention
Initial results in school show 73% no diagnosis, 27% different level of diagnosis

Solution #2 Treat: network of treatment online including therapists to psychiatrists
Online blog/video counseling subscription model \$49 weekly 24/7
affordable, convenient, professional

Solution #3 Track and Train

Target markets

1. Schools
2. Colleges
3. Businesses
4. Physicians
5. License, hospitals, insurances and Patient Management Systems (EMR)

Seeking Innovation in Treating Heart Valve Diseases

Joy Medical

Shanghai Joy Medical Co. Ltd
Joy Medical America

Pulmonary valve development

Product I pulmonary valve
product II mitral repair device
product III tricuspid repair device

Technology advantage

Pulmonary valve

Current surgical: valve conduit in US but limited in China
Current surgical Pulmonary patch main stream treatment in China
Transcatherter is secondary procedure, approved in US, in trial in China
Joy Method valve designed for surgical use successful in animal model

Portable and Multifunction Radiography System

By Magellan Medical Systems

Global market: Medical X-ray imaging global - \$5 Billion

Opportunity: Unmet needs, emerging markets

Veterinary imaging market: global \$2 billion, X ray is standard method

North America 45.5% global market share

Portable device

Multipurpose

High resolution

Low radiation dose

Competitive price

The product has already distributed to India and ordered by different hospitals in China

GuideMia eDentistry

By GuideMia Technologies

Mission: offering dental solution with improved experience

Global market

20% annual growth, 50% some market

\$7B, implants, \$3B aligners only

20 times growth room in China

Problems: not enough capable doctors, hi-tech meets doctors / technicians

Real big data at large, disconnected dental services and supply chain, sophisticated lab

IT infrastructure, more than 11K labs in US. Most will consolidate, growth pain for private clinics in China

eDentistry, the future of dentistry

Digital dental services – data acquisition, digital treatment planning & design, digital manufacturing & ERP, Digital case management

Supply chain and services - fully integrated, CAD/CAM data driven supply chain, service providers penetrate supply chains

Revolution of dental lab industry – platform providers, treatment planning and design centers, manufacturing centers

Where we are – Offering digital implant and orthodontics solution globally with IP and certifications with good growth

Next step: dental clinics powered by GuideMia

Demo center in China, equipped with our digital solution and the doctors offer implant treatment all in one day

Competency: technology, products and business model