



Providing Appropriate Healthcare Technology for Emerging Markets

A proposal for Medical Technology Transfers and Services

Global Leaders Programme, Hong Kong & Vietnam, 10-21 March 2014

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EXECUTIVE SUMMARY

Executive Summary (1/2)

- Every year, 4 million newborns die worldwide, mostly from easily treatable diseases, including respiratory distress syndrome and infant jaundice. 99% of these deaths occur in the developing world.
- In spite of this neonatal care remains one of the branches of medicine with the least investment, research and innovation. Existing interventions and solutions are often inappropriate or too costly for the communities currently lacking access to treatment.
- Medical Technology Transfer and Services (MTTS), a Vietnamese medical equipment manufacturer adapts modern medical solutions in neonatal care to the needs of developing countries.
- To date, a majority of MTTS' sales have been to NGO East Meets West's (EMW) Breath of Life programme (BoL) and to other grant/development agency-led initiatives that purchase medical devices from MTTS which are then donated to public hospitals.
- This report makes recommendations for MTTS to shift its business model from a largely donation-reliant structure to a commercially viable and profitable social business in the next 5 years.
- The report provides recommendations, the implementation of which is expected to lead to a projected sales target of US\$30 million and a net income of US\$ 4 million by 2019.
- A mixture of debt and equity is recommended for the initial investment of US\$1.5 million required to support MTTS' next stage of growth.

Executive Summary (2/2)

- The report focuses on several key areas for improvement. Business expansion will be critical to MTTS' future and includes expansion into the growing private healthcare sector in Vietnam; international expansion into emerging markets across ASEAN and beyond; and the expansion of MTTS' product portfolio
- The proposal also includes suggestions for operational improvements, such as optimising the supply chain by relocating MTTS' manufacturing hub in order to lower production and distribution costs
- A new sales and marketing strategy can place MTTS at the center of the selling process and support a shift of MTTS' company culture towards being more commercially oriented. This would entail incentives for a growing sales force and more effective sales management.
- Finally, it is recommended that MTTS engage in key strategic partnerships to support R&D for new products, grow sales, assist with operations overseas, and attract external funding.
- This report was prepared for East Meets West and MTTS by 22 participants on GIFT's Global Leaders Programme, and with experience from the private, public and civil sectors.
- This report is based on recommendations and business suggestions expressed by participants, the implementation of which by EMW and MTTS is not guaranteed

Global Leaders Programme: Providing commercial insights into the healthcare sector



A diverse, experienced team with different perspectives and market insights on the ground at the Dong Son District in Thanh Hoa Commune Hanoi

A global team with diverse backgrounds



- In March 2014, 22 participants from 11 countries and 15 organisations and companies worked with EMW and MTTs to look at opportunities for MTTs's business to grow over the next 5 years.
- After a week in Hong Kong, the group travelled to Hanoi and surrounding provinces to visit public and private hospitals, distributors of medical equipment and community representatives to get insight into the healthcare sector in Vietnam and develop the following business proposal.

Overview of project partners

East Meets West (EMW)



- A US-based non-profit organisation dedicated to creating sustainable solutions to address major development issues such as healthcare, water and sanitation, and education.
- Breath of Life (BoL) programme provides low-cost equipment and training at no cost to treat premature and ill infants.
- EMW will likely take a stake in MTTTS (Hong Kong) to consolidate its core activities in healthcare.

Medical Technology Transfers and Services (MTTS)



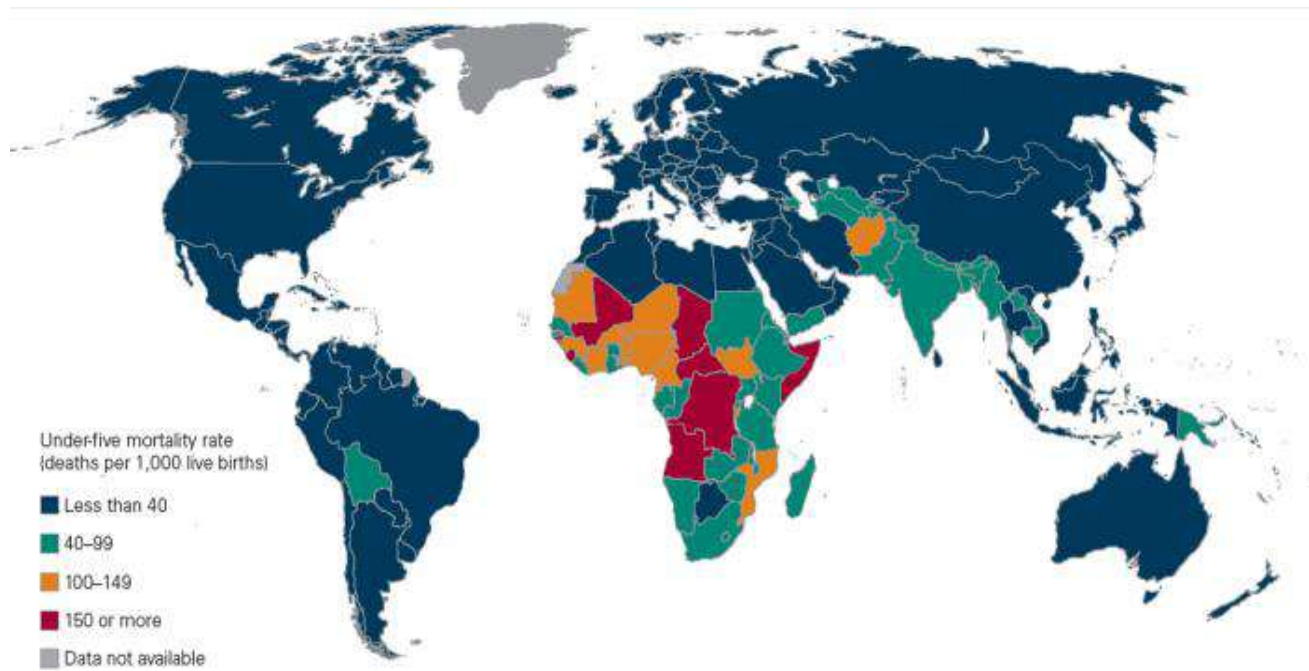
- Vietnamese manufacturer of medical equipment promoting the delivery of Western-adapted medical solutions in neonatal care to newborns and their parents in developing countries
- MTTTS (Hong Kong) was set-up in 2009 to facilitate international transactions and better support the growth prospects of EMW and MTTTS overseas.

MTTS is a strategic partner of East Meets West for the provision of affordable neonatal equipment

INTRODUCTION & BACKGROUND

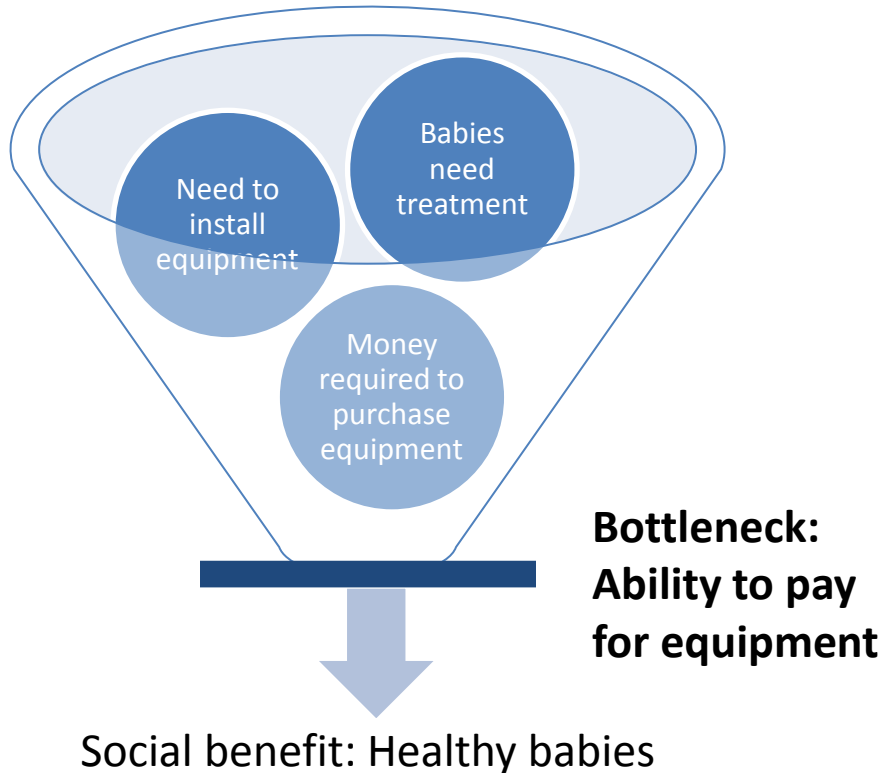
1. Infant mortality in developing countries
2. Neonatal Market: Need Vs. Demand
3. Neonatal Equipment
 - Global Market
 - Competitive Environment
 - Emerging Markets
4. Medical Technology Transfers and Services
 - Introduction
 - Products
 - Key partnerships

Infant Mortality in Developing Countries



- Every year, 4 million newborns die worldwide
- 99% of all newborn deaths occur in the developing world
- Those newborns mostly die from easily treatable diseases, including respiratory distress syndrome and jaundice
- In Vietnam, the infant mortality rate has dropped by 48% from 1990 to 2011

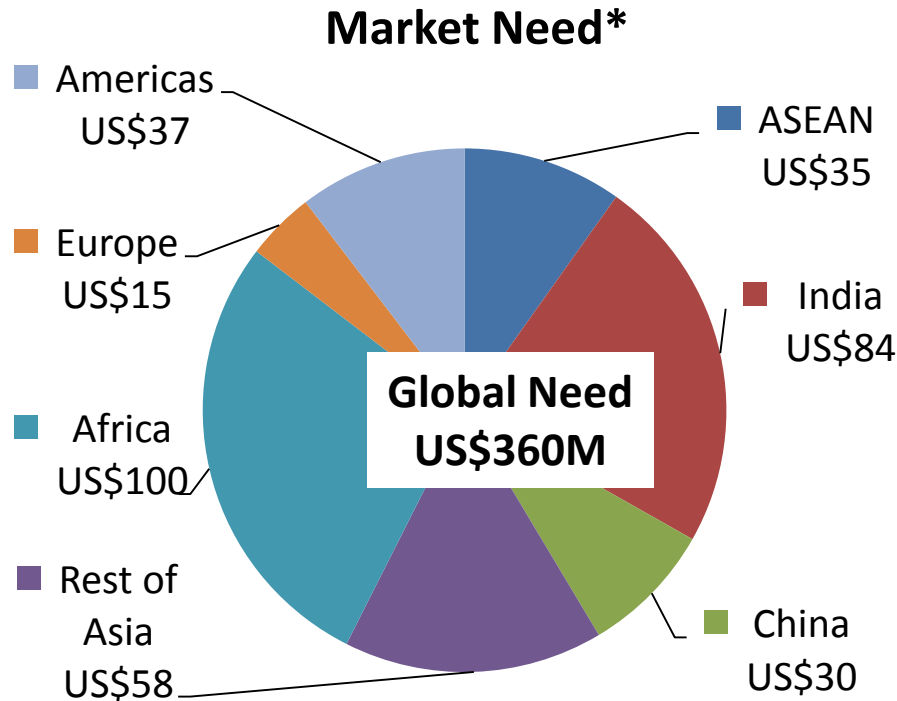
Neonatal Market: Need vs. Demand



- **Market Need** is the amount of money required to treat every baby requiring treatment
- **Market Demand** is the amount of money potential customers are willing and able to pay for neonatal equipment
- Healthcare expenditures in developing countries are typically too low to allow treatment of all babies
- The solution requires government actions but also private-public cooperation.

The market demand for neonatal care equipment in emerging markets is typically lower than the real need

Neonatal Equipment: Global Market



* Calculated from WHO figures for market need for MTTs' main products: CPAP, NICU, infant warmer, Firefly

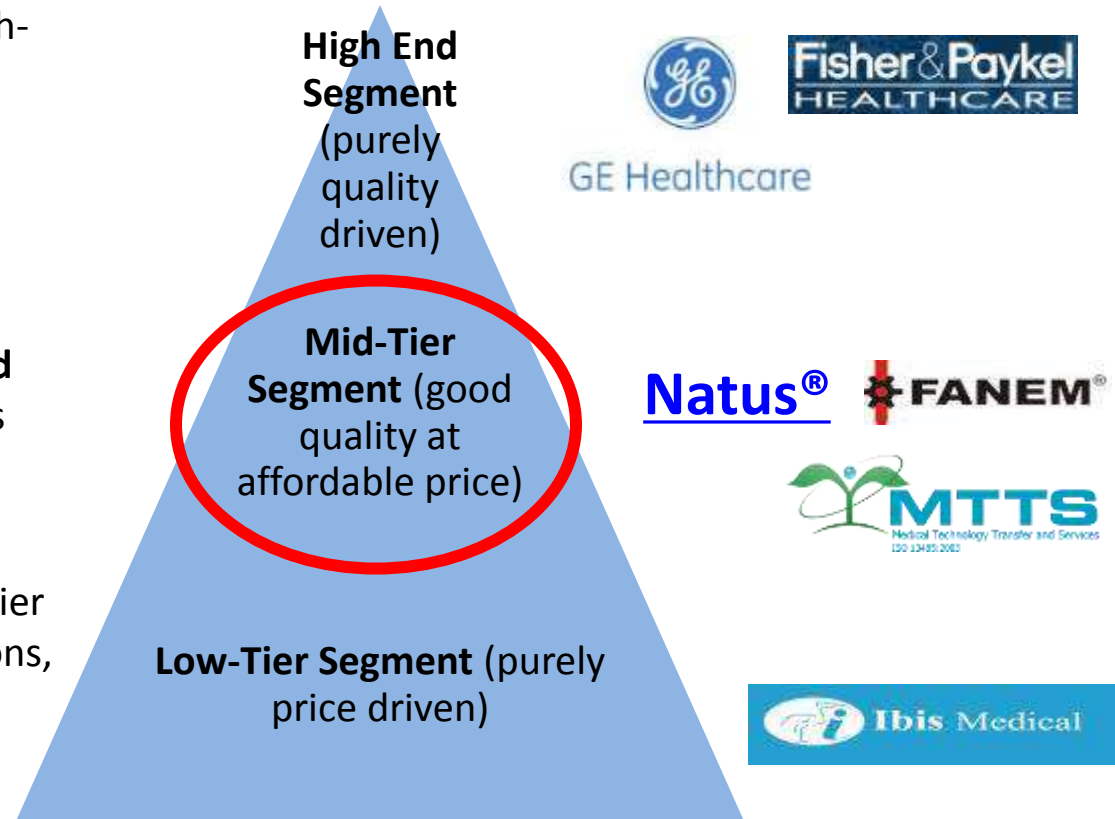
Market Demand (selected countries)

- Vietnam: US\$2.6M
- India: US\$25.1M
- South East Asia: US\$18.4M
- Africa: US\$7.4M

As today's developing economies become richer, market need and market demand for neonatal equipment are expected to converge, creating significant market growth and therefore business opportunity

Neonatal Equipment: Competitive Environment

- **Western competitors** focus on high-end segments and benefit from strong brand recognition but are expensive both to purchase and to maintain
- **Competitors from India, China and Brazil** focus on a low price-point as their major selling proposition
- There is room to grow in the mid-tier segment: adapted to local conditions, offering reliable equipment and services but priced below Western competitors



Need to focus on competitive pricepoints, product quality and local requirements to compete in the mid-tier segment

Neonatal Equipment: Emerging Markets

Medical equipment in mid-tier segments in emerging markets must be:

- **Affordable** – to remain viable with per capita health expenditures in developing countries that are typically more than 10x lower than in developed countries
- **Easy-to-use** – to enable staff with less training to use devices effectively
- **Adapted to local environments and infrastructure** – to consider conditions such as unstable power supply
- **Durable** – to withstand heat, humidity, and dust
- **Low maintenance** – equipment may be used in remote locations and repair must be practical
- **After-sales service** – devices to be serviced by local technicians to ensure product durability and longevity



Medical equipment for mid-tier segments in emerging markets needs to be adapted to the local context

MTTS: Meeting the Need for Neonatal Care Devices



MTTS – Medical Technology Transfer and Services – is a Vietnamese medical equipment manufacturer established in 2003 and **specialising in adapting Western medical neonatal equipment to the requirements of clinics and hospitals in developing countries.**

Mission

To promote and deliver appropriate, sufficient and reliable medical services to newborns and their parents in developing countries by adapting proven Western technologies to local conditions.

Competitive advantage

- In Vietnam product prices are lower than imported devices
- Provides after-sales services and support such as maintenance and repair
- Products designed to suit local contexts
- High machine lifetime: 7+ years

Company Snapshot

- 22 staff, including volunteers for R&D
- Company run by Nga Trang (Founder) and Gregory Dajer
- Has equipped 290 hospitals throughout Vietnam, helping to reduce patient transfers by 83% and eliminate exchange transfusions entirely
- To date 54,000 newborns are treated by MTTS equipment annually

MTTS provides affordable and appropriate neonatal equipment and reliable after-sales services to public hospitals in Vietnam and neighbouring countries.

MTTS: Key Products

- MTTs has developed a range of appropriate medical equipment addressing close to 90% of the problems in newborn intensive care units
- Flagship products are the Continuous Positive Airway Pressure (CPAP) and the Firefly
- Other products include: Overhead Phototherapy, Light Meter, Infant Warmer, Infant Bed, Optimizer, BiliBed and hand sanitizer

Continuous Positive Airway Pressure CPAP

- Treats **Respiratory Distress Syndrome (RDS)**
- Integrates oxygen monitoring capabilities & air compression mechanisms, which would otherwise be sold separately
- Design for CPAP version 4 based on hospital feedback (more plastic components)
- **Units sold to date: 900+**



Firefly

- Treats mild to severe **jaundice**
- Provides top & bottom lighting to maximise effectiveness
- Bassinet for one child to avoid infection and cross-contamination
- Portable device
- **Units sold to date: 85**



MTTS: Key Partnerships



- Provides **training and support** to medical staff in neonatal care on best practice for machine usage, jaundice and RDS treatment, CPAP ventilation, etc.
- Carries out **monitoring and evaluation** to measure and increase impact in hospitals, identify issues and adapt the BOL programme on observed needs
- **Develops strong relationships** with Ministry of Health & Provincial Health Departments
- In future, EMW to take a stake in MTTS to consolidate EMW core activities in healthcare

Design that Matters

- US-based non-profit **design firm**
- Develops products and technologies to serve disenfranchised communities in developing countries
- Works with technology students and volunteers to apply expertise for solutions
- Works in 20 countries in Africa, South and Southeast Asia
- Design that Matters designed **Firefly** (phototherapy device)



BUSINESS MODEL

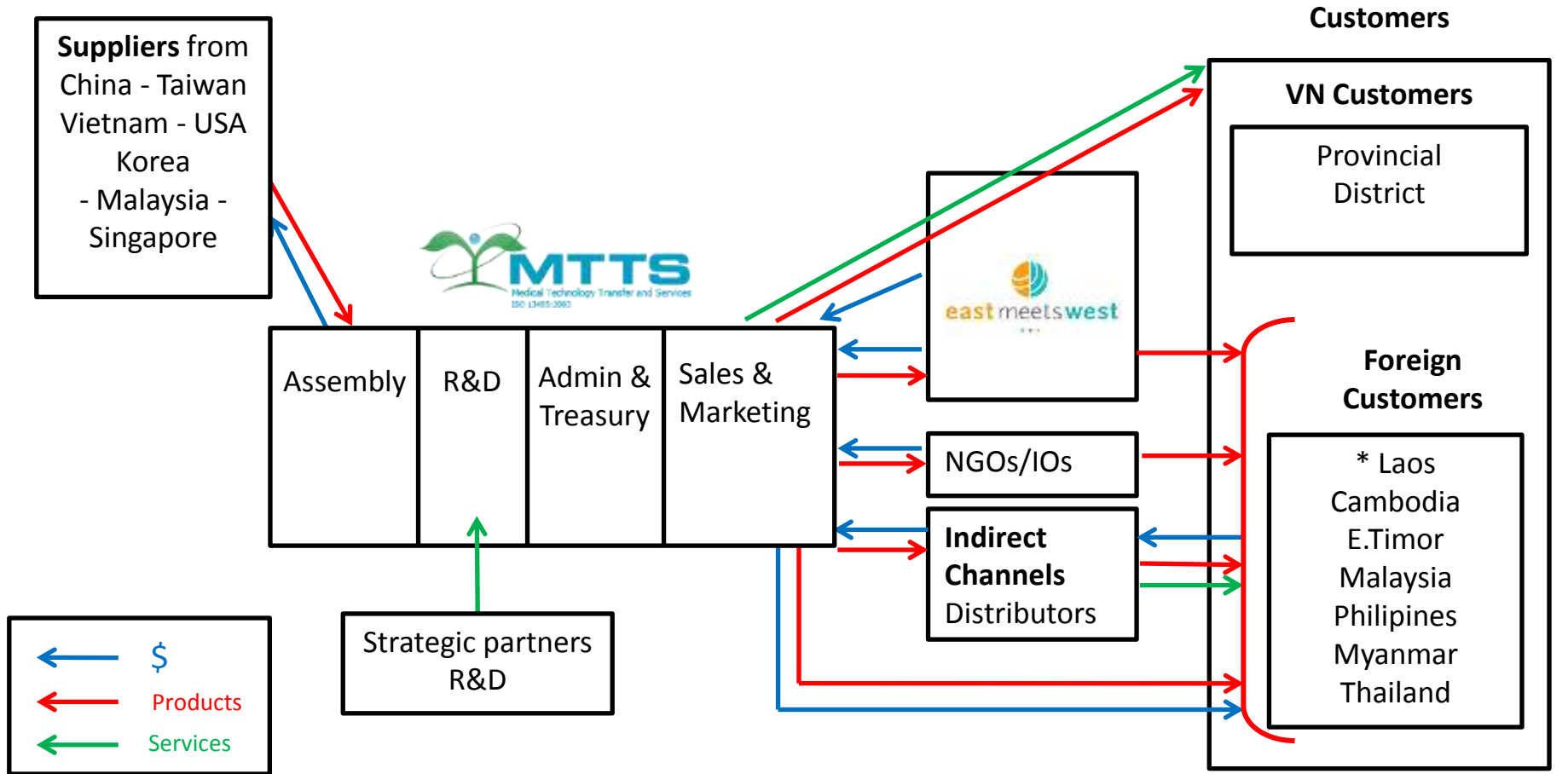
- Current business model
- Proposed business model

Summary of Current Business Model

- MTTs sources parts for its products from suppliers throughout Asia and assembles them in Vietnam.
- The devices are then sold to distributors, NGOs and International Organisations, and its strategic partner EMW. At present MTTs sales are divided into roughly 40% to Vietnam (of which 20% is to EMW) and 60% overseas, primarily in the Philippines and Myanmar.
- However volumes for overseas sales are low (less than 70 units/device/country/year) and are primarily driven by EMW (80% of sales).
- R&D and product development is done mostly in-house with both full time staff and volunteers. The Firefly, their latest device, was produced in collaboration with U.S. based organisation Design That Matters.



Current Business Model



* Low penetration in these countries
 (5-70 of each device per country per year) distributed by EMW

Sales for 2013: US\$930,000

MTTS Current Business Model – Limitations

Market size

- Small market size in Vietnam with limited possibility for volume growth (US\$2.6M in 2010)
- Sales volumes in current markets (Vietnam, Laos, Cambodia, Myanmar, the Philippines and others) are still too low to reach a critical mass
- Many hospitals face budget constraints impeding the purchase of neonatal equipment

Sales & Marketing

- MTTS heavily dependent on EMW and other development aid agencies for product sales
- One person dedicated to sales in Vietnam
- No incentives to drive sales
- No or little brand recognition: products and services currently associated to EMW + well-established brands are perceived to have higher quality

Governance

- MTTS business tied to EMW's development-led strategy
- Relationship between EMW and MTTS still to be defined

Product development

- R&D limited to and reliant on cooperation with charities, volunteers and external partners for product development
- Funding for R&D from grants – limitation on amount and scope for product development

Supply chain

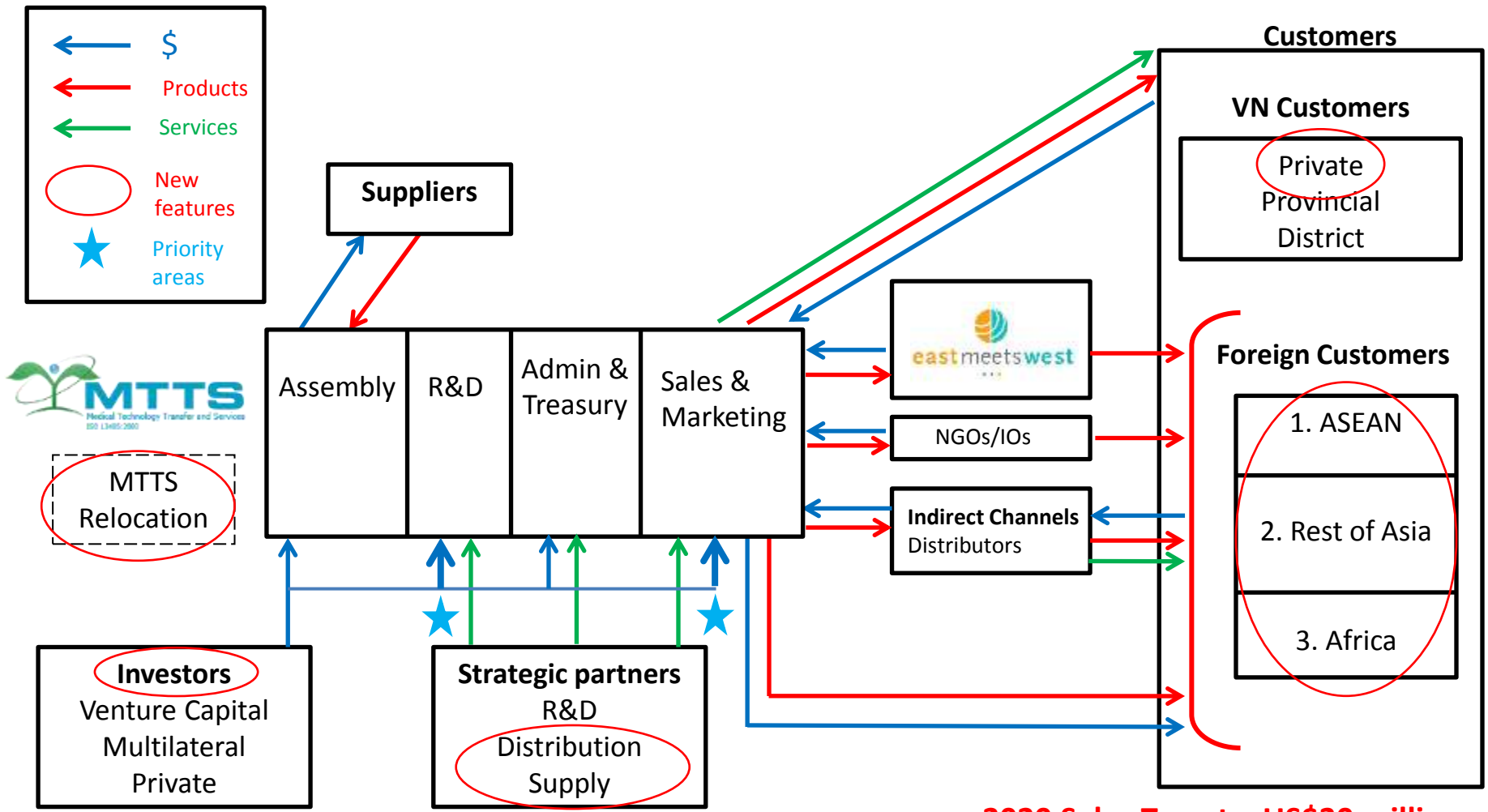
- High production costs linked to low product volumes and location (Vietnam)
- Storage needed for devices with plastic components
- Current operations limits potential for growth

Proposed Business Model

- **Expand operations outside of Vietnam** by increasing MTTs' presence in ASEAN countries and eventually moving into the rest of Asia (beyond ASEAN) and into Africa. Allows for growth by accessing much larger markets (US\$65 million market need for ASEAN vs US\$2.6 million for Vietnam) and economies of scale would mean significant savings for MTTs.
- **Expand product line**, especially to include consumable items such as nasal cannulas and gastric tubes to be replaced on a regular basis and that can provide a steady revenue stream.
- **Move base of production to a lower cost base such as the Philippines** to access cheaper rent and shipping, and a larger pool of technical talent.
- **Identify strategic partners in different industries** to help with R&D, provide access to low-cost purchasing deals and distribute MTTs products in markets where it is currently not present.

Opportunity exists to transform MTTs from a grant-reliant enterprise to a commercially viable medical equipment company with prospects for rapid growth

Proposed Business Model



A group of people, including students and professionals, are seated in a lecture hall or classroom. They are attentively listening to a presentation. A man in a blue shirt is standing at the front of the room, possibly the presenter. The room has large windows and wooden benches.

BUSINESS EXPANSION

- Expansion in Vietnam
- International Expansion
- Expansion of Product Portfolio

Summary of Recommendations

This report identifies several areas which could support MTTs with its business growth:

- ✓ Expansion in **Vietnam by accessing private sector** hospitals. Demand for private healthcare is growing by 20% yearly
- ✓ **Expansion into ASEAN** countries where the market need for neonatal care is US\$65 million (2012) and then into the **rest of Asia** and eventually into **Africa**.
- ✓ Economies of scale would mean significant savings for MTTs
- ✓ Develop **product portfolio** to include consumable products and complementary devices for healthcare



Expansion in Vietnam: Private Sector Hospitals

- Rapid population growth (92.7M by 2013) and increasing GDP per capita (US\$1,896 in 2013).
- Increasing demand for private healthcare (~137 private hospitals, growing 20% yearly) and number of national private medical groups (i.e., Hoan My medical group):
 - targeting middle to lower income customers
 - focusing on high-tech equipment and quality customer service
- Private expenditure on healthcare expected to outpace public sector due to poor state-level service provision.
- Growing foreign investment in the health sector (Singapore's Thomson Medical Centre and Hoa Lam-Shangri-La, and Malaysia's Columbia Asia)
- No tender required to provide medical devices, so less procurement paper work required.
- **Expansion can help achieve economies of scale**

MTTS can make US\$1M in sales by achieving 30% market share



MTTS should direct sales to the growing private sector in Vietnam

International Expansion: ASEAN countries (1-3 yrs)

- Southeast Asia has the highest private health expenditure in the world (63.1% of total health expenditure) to provide basic infrastructure
- ASEAN total healthcare spend: US\$68 billion
- Market need for neonatal care in ASEAN countries: US\$65M in 2012*
- Underdeveloped markets: High neonatal death rate due to complications from neonatal birth (1.9 - 4.6%)
- Current penetration in ASEAN is low. Proximity with markets would increase sales expansion and presence in Myanmar, the Philippines, Indonesia, and Cambodia
- Benefit from Regional Comprehensive Economic Partnership (RCEP) and 2015 ASEAN Economic Community (AEC) that aims at:
 - ✓ single market and production base, highly competitive economic region fully integrated into global economy



***US\$13M in sales at 20% market share.**

Market size calculated on the basis of four additional products to be introduced by MTTs.

International Expansion: Beyond ASEAN

Penetrate Markets in the rest of Asia (3-5 years)

- Market need for all countries in Asia ex-ASEAN quantified at more than US\$300M in 2012
- Indian and Chinese markets in particular are very large but highly competitive



US\$15M additional sales potential at 5% market share

Expand into Africa (>5 years)

- Market need quantified at US\$200M in 2012
- Underdeveloped markets with high average neonatal death rate and deaths due to complications from neonatal birth (4.4%)
- General per capita healthcare expenditures similar to ASEAN



US\$30M additional sales potential at 15% market share

Expansion of Product Portfolio

Opportunity for MTTTS to expand and complement its product range to include consumable products and complementary devices for healthcare

- **Gastric tube:** consumable, provides another way to offer food and/or medicines to infants under pre-term treatment.
- **Nasal cannula:** consumable, used to deliver supplementary oxygen or airflow.
- **Heater:** device, warms infants under preterm treatment.
- **Pulse oximeter:** device designed to monitor a patient's O2 saturation levels in the blood.
- **Air purifiers** to improve air quality and healthcare settings in hospitals, and to reduce nosocomial (hospital-acquired) infections conducive to patient morbidity and mortality. Potential opportunity for MTTTS to adapt air purifiers to Vietnamese environments and making them more affordable (more R&D and research on market needs required).



Market Opportunity for Neonatal Products and Devices in Asia

New Product	Market Size [number of products Sold per annum]			
	Myanmar	Cambodia	Philippines	Indonesia
Gastric Tube	463,200	150,345	1,571,790	3,049,335
Nasal Cannula	694,800	225,517	2,357,685	4,574,022
Heater	30,880	10,023	104,786	203,289
Pulse Oximeter	30,880	10,023	104,786	203,289
Total	1,219,760	395,909	4,139,047	8,029,916

Calculation methodology:

Gastric tube: 1 set/3days/baby, 45days/baby/treatment, 1 baby = 15 set

Nasal cannula: 1 set/2 days/baby, 45 days/baby/treatment, 1 baby = 22.5 set

MTTS is well positioned to capture the huge opportunities for consumable products and devices for neonatal care

A photograph of two men in a workshop or laboratory setting. They are focused on assembling or repairing medical equipment. The equipment consists of a light blue rectangular unit mounted on a white metal stand with four legs and casters. The man on the left is using a tool to work on the base of the stand, while the man on the right is using a screwdriver on the blue unit. The background shows a long workbench with various tools and equipment, and shelves with boxes and supplies. The lighting is bright, coming from overhead fixtures.

OPERATIONS

- Improving Operational Efficiency
- Current Operational Constraints
- Proposed Operational Model
- Relocation Rationale
- MTTs Asia Hub: Philippines

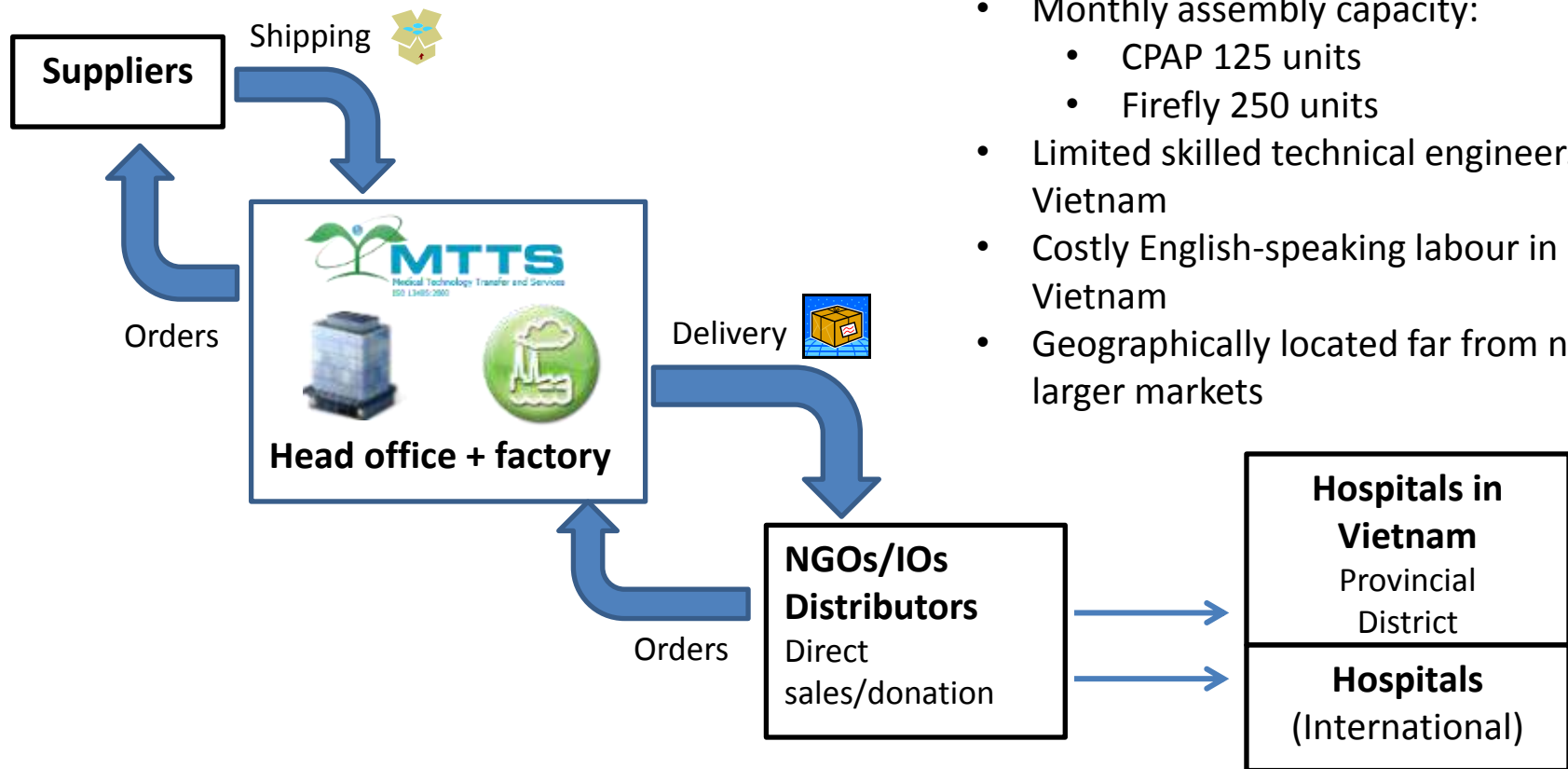
Summary of Recommendations: Improving Operational Efficiency

This report identifies several areas in which MTTTS could significantly streamline its operations:

- ✓ **Streamlining the production process** with bulk orders and online supply chain management will significantly reduce costs and allow MTTTS to remain price competitive.
- ✓ **Relocation to the Philippines** would reduce rent, shipping costs and wages and make available a larger pool of technical talent.
- ✓ **Training and incentivising a salesforce** are essential to increasing sales and earning market share in new regions where MTTTS is not a familiar brand.
- ✓ **Rebranding** the existing product line to better appeal to customers and make a more lasting impression.

Current operations should be reassessed to support future expansion into new markets

Current Operational Model: Supply Chain in Vietnam

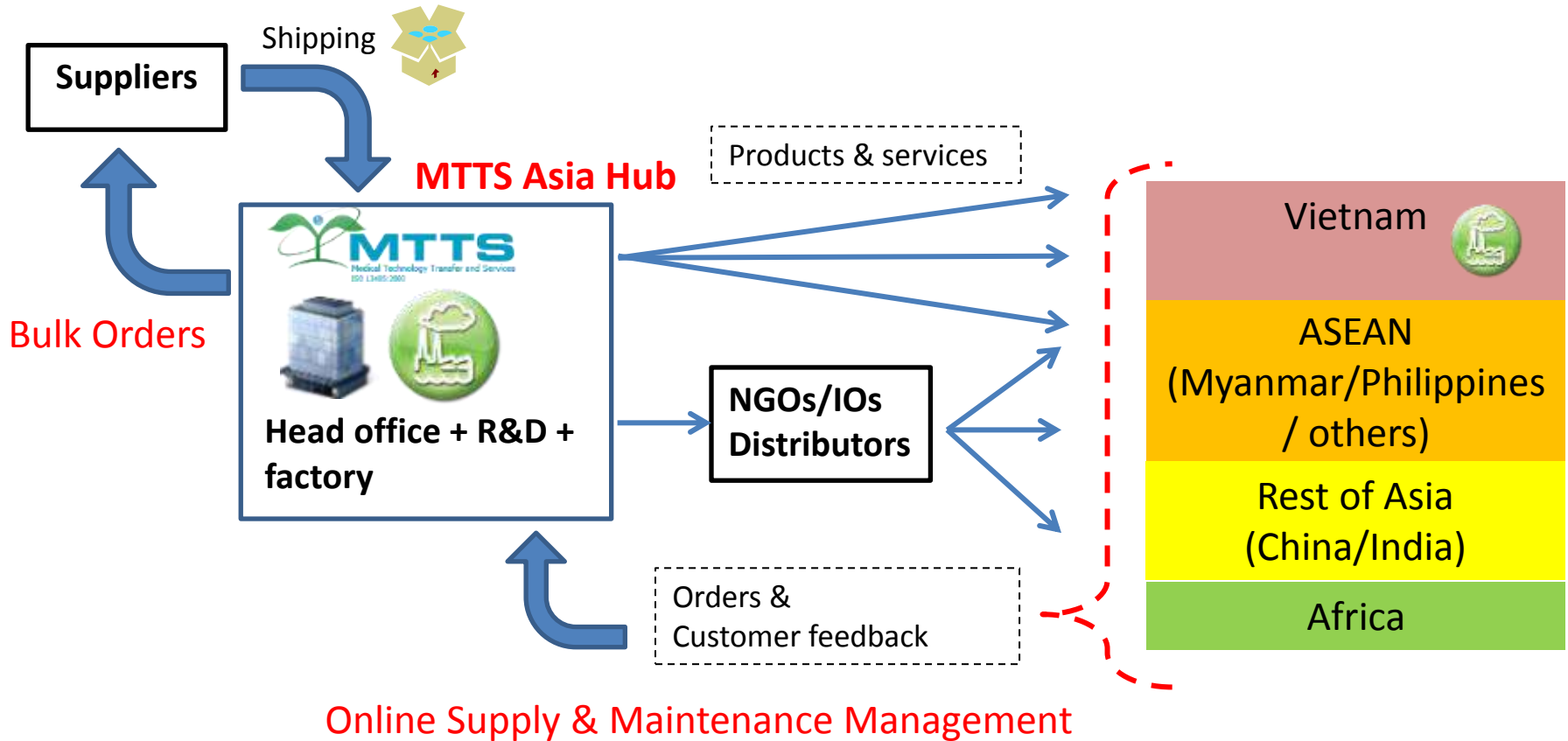


Main Constraints

- Monthly assembly capacity:
 - CPAP 125 units
 - Firefly 250 units
- Limited skilled technical engineers in Vietnam
- Costly English-speaking labour in Vietnam
- Geographically located far from new larger markets

Current operations in Vietnam are a constraint for future expansion

Proposed Operational Model: Asia Hub



Need to redesign supply chain and centralise manufacturing & ordering to maintain competitive edge on costs

Rationale for Relocation

3 **Wise** Why's to Relocate

Cost-wise

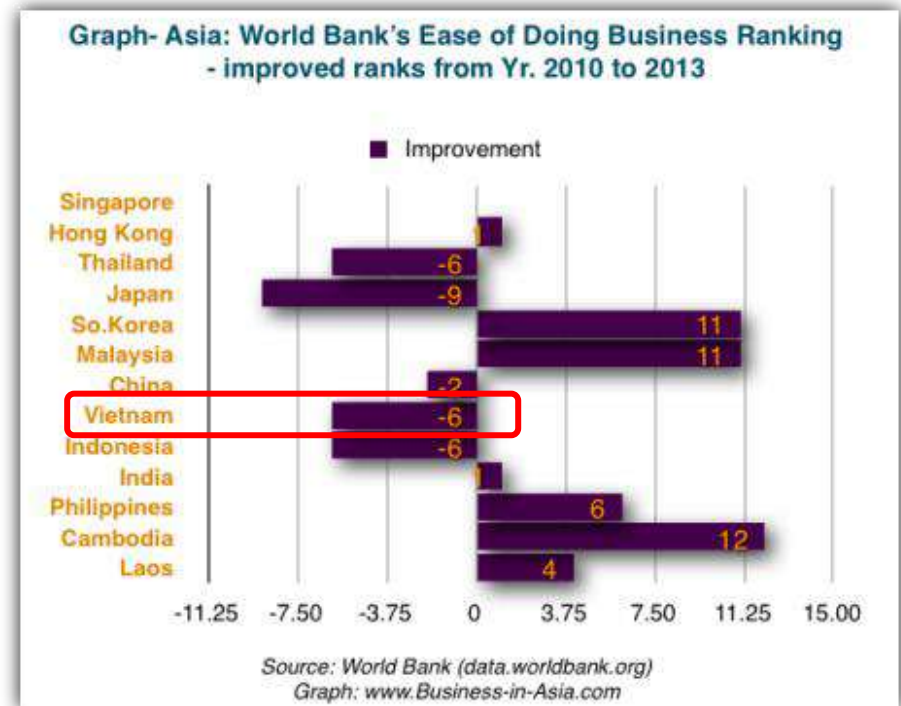
- Major drive for cost control: Up to **90% of total cost** is material & shipment

Quality-wise

- Greater access to R&D capability to drive for innovation
- Availability of English speaking personnel
- Access to broader range of suppliers, and therefore to quality products & services

Business-wise

- Higher quality infrastructure (transport, electricity)
- Greater exposure to international markets for Import/Export



To support its business expansion plan, MTTs needs to hire a high quality workforce and to drive logistic and material costs down

Why the Philippines?

Key Consideration	Philippines	Vietnam	Indonesia	Thailand
Sea Port World Top 50	Yes	No(Hanoi)/Yes (HCMC)	Yes	Yes
Labor Cost	Low	Very Low	Very Low	Low
Quality of Labour (English)	High	Low	Low	Medium
Shipment cost from Supplier	Medium	High	Medium	Medium
Shipment cost to Market	Low	High	Low	Low

Philippines has high labour quality and low labour costs

Proposed MTTTS Asia Hub: The Philippines

- Ideally located at center of main business markets
- Stable GDP growth (6.6%) and growing manufacturing sector in range of industries
- Part of ASEAN and great push to become a regional “healthcare hub”
- Good transportation and communication infrastructure
- Low total cost with quality operation staff and young, English-speaking workforce
- EMW Country representatives with strong networks with key players in healthcare sector
- Increase in investments in Public-Private Partnerships and in large private healthcare groups such as Makati Medical Centre
- Tax incentives and government perks for businesses



Philippines is the proposed MTTTS Asia Hub as it provides the opportunity to most effectively exploit the growth in South East Asia.

Strategic partnerships (1/2)

New partnerships for MTTs would go beyond development aid agencies and NGOs to include the private sector, particularly companies from the healthcare industry.

Marketing

- Leverage access to market data and broad network to access potential users/customers
- Engage in mutual advertising, marketing, branding and other business functions
- Introduce MTTs to key contacts in new markets

Strategic financial partners

- Financial experts to monitor the flow of money in the company
- Advice for new solutions and financing options for the distribution of products and to identify new investment opportunities

Potential Partners

Becton Dickinson
GE Healthcare (India)
AOM&S (Thailand)
Fyrom (Indonesia)
MCIM (Malaysia)
Design the Matters (USA)



Strategic partners can help grow MTTs's business at a lower cost

Strategic partnerships (2/2)

R&D and technology to improve or expand product portfolio

- Improve existing MTTs products with best practices
- Work with MTTs engineers to develop new products
- Adapt/transfer existing technology to a local context
- Keep abreast of new technologies and informed of current trends and demand from customers

Supply & distribution to access new markets

- Support with engineering, manufacturing or product development services
- Distribute MTTs products to expand their existing product line
- Introduce MTTs to new suppliers for preferential purchase agreements
- Partnerships to support with products tailored to specific needs to increase competitive advantage



Strategic partners can support numerous business functions. Exclusive partnerships can help MTTs achieve a critical competitive advantage in new markets



SALES & MARKETING

- Summary of Recommendations
- Objectives for Sales and Marketing
- Step-by-step sales expansion
- Sales and Marketing activities
- Consolidated Sales Approach
- Re-branding
- Sales projections

Summary of Recommendations

Key features

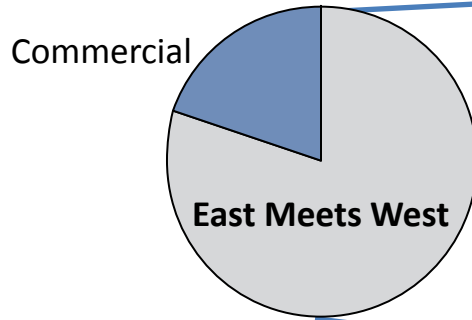
- Shift the Sales and Marketing from EMW to MTTs to be more cost-effective and incentives-based
- Revamp the Sales and Marketing strategy by:
 - developing new sales channels
 - shifting the company culture from being development- to commercially-driven
 - Hiring and training a dynamic salesforce to pitch the products, services AND social mission of the company
- Rebrand MTTs to differentiate the business, products and services in the minds of the company's target market
- Opportunity to co-brand medical devices with leading medical equipment providers
- Enhance existing marketing activities to highlight the company's unique value proposition



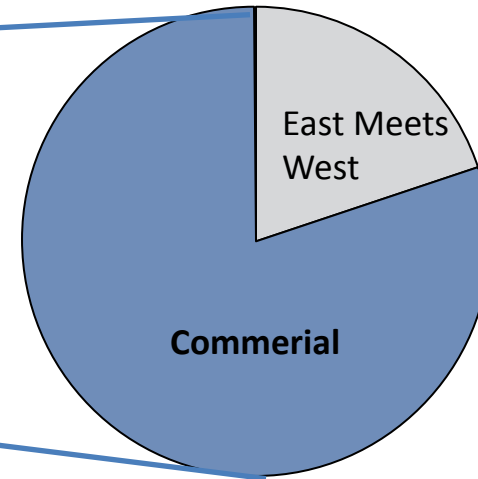
MTTs' sales and marketing strategy is aimed to change the company's culture from a development-led enterprise to a commercially-and-social minded one

Objectives for Sales and Marketing

Current sales



Targeted sales



Current Situation

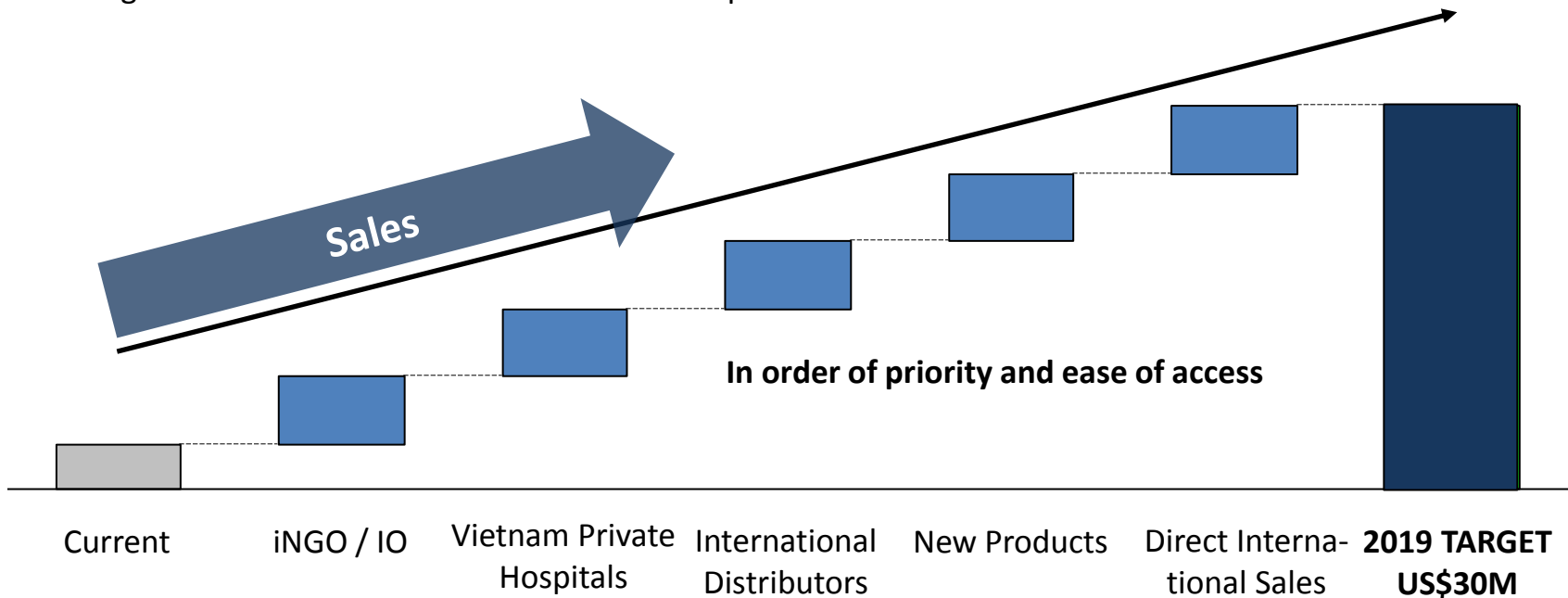
- Low market penetration & market share
- Sales mainly generated via Breath of Life and company/products associated to development cause
- Minimal sales force

Objectives

- Shift the marketing of MTTs products from EMW to a dedicated sales & marketing team within MTTs to avoid dispersion of resources, improve cost management
- Increase sales through incentives to reach US\$30 million by 2019
- Develop direct & indirect sales channels
- Strengthen branding

Step-by-step Sales Expansion

- Sales are projected to increase through: multichannel marketing to the public, private and civil sectors; strengthened management of customer relationship with key individuals for equipment procurement; and value-based selling for both products and services.
- Short-term: Leverage EMW's contacts overseas
- Long-term: Increase direct sales & commercial partners

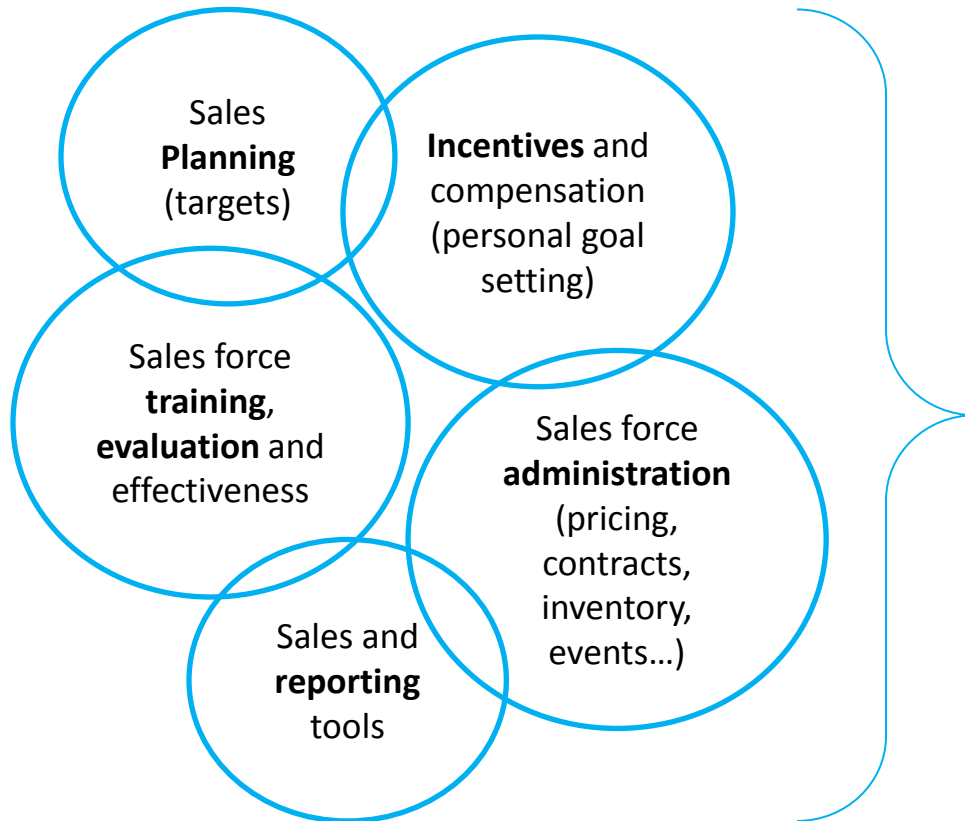


In order to reach sales target of US\$30M in 2019, MTTs will need to fully exploit each of the above sales channels

Sales and Marketing Activities

Establish	Focus	Aim
Establish relationship with key strategic partners	Key Focus Countries	<ul style="list-style-type: none"> Existing sales team with product & technical knowledge Access to sales networks and/or additional products
Identify key hospitals and strengthen customer relations	Public and Private hospitals in Vietnam	<ul style="list-style-type: none"> Leverage on hospitals that have an influence on the purchasing process of lower tier facilities Target private healthcare facilities that cater to lower-middle income groups
Increase awareness around neonatal care and relevant solutions	Vietnam & ASEAN	<ul style="list-style-type: none"> Consider donating devices to medical training schools to increase visibility of neonatal care and MTTs Improve brand recognition (through IT services (website/mobile platforms) & certification)
Doctor as consultant	Vietnam & ASEAN	<ul style="list-style-type: none"> As expert “ambassadors” Direct point person for input on hospital conditions/needs and to provide feedback on devices and quality of services
Raise brand awareness	ASEAN & Asia	<ul style="list-style-type: none"> Establish an attractive brand: MTTs as a reliable business with a social mission Increase presence and visibility at Medical Fairs and forums
Approach established distributors	ASEAN & Asia	<ul style="list-style-type: none"> Potential strategic partners with country-wide distribution networks eg. DKSH, Asian Medical

Consolidated Sales Approach



PROXIMITY

Establish Rep Offices in key focus countries

- Recruit & train sales personnel
- Understand local hospital structure
- Establish local network of contacts and distributors
- Develop a local aftersales support

WIDENED NETWORK

- Develop strategic partnerships to tap into wider distribution networks in other countries
- Leverage of NGO/IOs network

A consolidated sales approach is key to developing the company's commercial thinking and expanding sales in Vietnam and in new markets

Consolidated Sales Pitch

Sales force pitch – MTTs is a unique product and service offering

- **Affordable** (price point below Western brands)
- **Adapted** to local environments
- **Warranty** for all MTTs devices
- Communicate special offers (product bundling, discounts, etc)
- Continuous innovation and quality management (ISO and CE certification)
- Reliable products and trustworthy equipment
- **Reliable** after-sales services close to customers
 - Welcome customer feedback for ongoing improvement, understand customer goals and tailor offerings to customer needs
 - Large stock of spare parts for equipment and range of consumables
- Financially viable business with a social mission that affects all newborns worldwide



The sales force must be trained to value-sell:
value defined by the customer rather than by the supplier

A Fresh Image for MTTTS

Why Re-brand MTTTS?

- Majority of MTTTS products are donated by EMW and other NGOs, which gives an impression that products are for charity, development projects only (“cheap”)
- Unclear distinction between EMW and MTTTS – who does what?
- MTTTS is a Vietnamese brand, but hospitals have a preference for Western brands
- MTTTS is an acronym that may not fully capture the mission of the company
- Changing ownership can mean changing company values and philosophy

Branding Benefits

- Project a positive image to reflect new values more accurately and passionately
- Attract different customer segments
- Create a renewed interest around the repositioned product/service offering
- Inject new impetus and confidence in the business
- Project image of a social business moving with its time
- Be associated to the positive effects and social impact of the business (emotional appeal)
- Be visually pleasing in numerous countries

Re-branding is a key step in the company’s marketing strategy

Re-branding: PRE-CIOUS



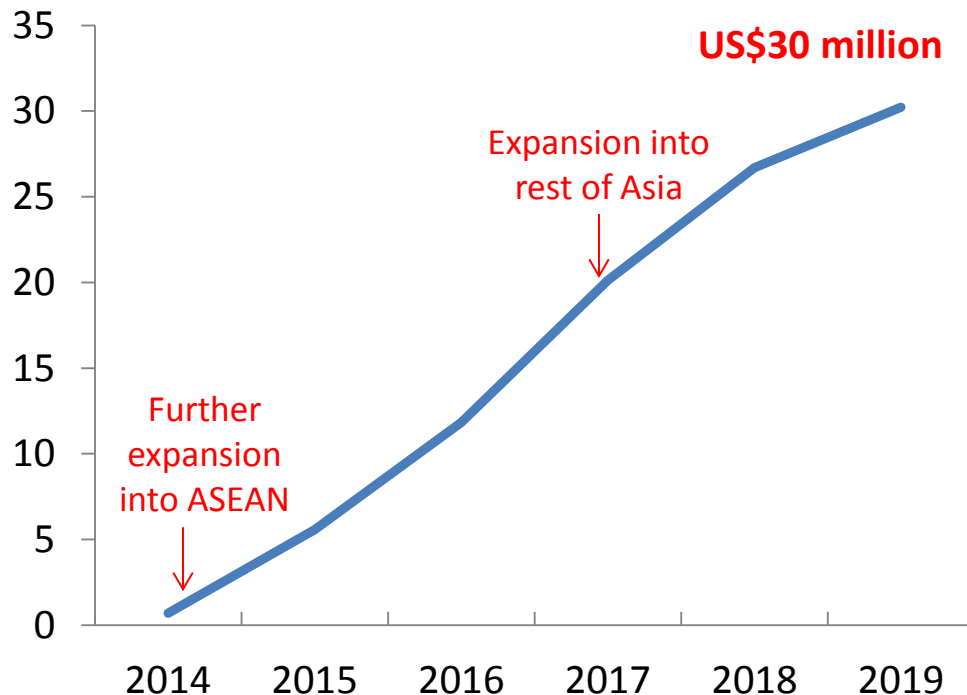
Precious: Providing medical solutions mainly for **pre**-term babies

Brand associations: Delicate | Endearing | Priceless

Supporting premature/ill babies to reach full-term and to become healthy: from small to larger squares

Sales Projections and Expected Outcomes

Sales (US\$M)



- Increase geographical sales support by customised marketing strategy
- Larger and more professionally trained sales force motivated by an annual salary + incentives or commission for every device sold
- Access to more distribution channels
- Enhance portfolio with new products and after-sales services
- Strengthen branding (“Pre-cious”)

Geographical expansion, growing product portfolio and high-performing sales force will contribute to achieving a target of US\$30M by 2019



ORGANISATIONAL STRUCTURE & GOVERNANCE

- Developing a governance framework
- Organisational structure requirements
- Proposed organisational structure
- Key roles and responsibilities
- Key stakeholders
- Stakeholder interests

Summary of Recommendations: Developing a Governance Framework

- Current organisational structure mixes business and reporting lines, creating inefficiencies and overlap of roles and responsibilities
- A new governance framework will allow MTTs to provide oversight, to consider the interests of various stakeholders and to ensure that the social and financial objectives of the company's shareholders and stakeholders are met
- It is presumed that EMW will proceed with current plans to acquire a stake in MTTs in order to consolidate EMW activities and programmes in healthcare. This will be done by acquiring a stake in MTTs Hong Kong, a holding company which will own all regional MTTs offices.
- The new management team brought in by EMW should have experience in the private sector to steer the company towards a more commercial approach, whilst keeping sight of its social objectives.
- Regular reporting and monitoring will ensure:
 - MTTs's social and financial performance is measured against its targets
 - The company is accountable to its investors

A new governance framework and a core management team with experience in the private sector will ensure the company's performance in the long-term

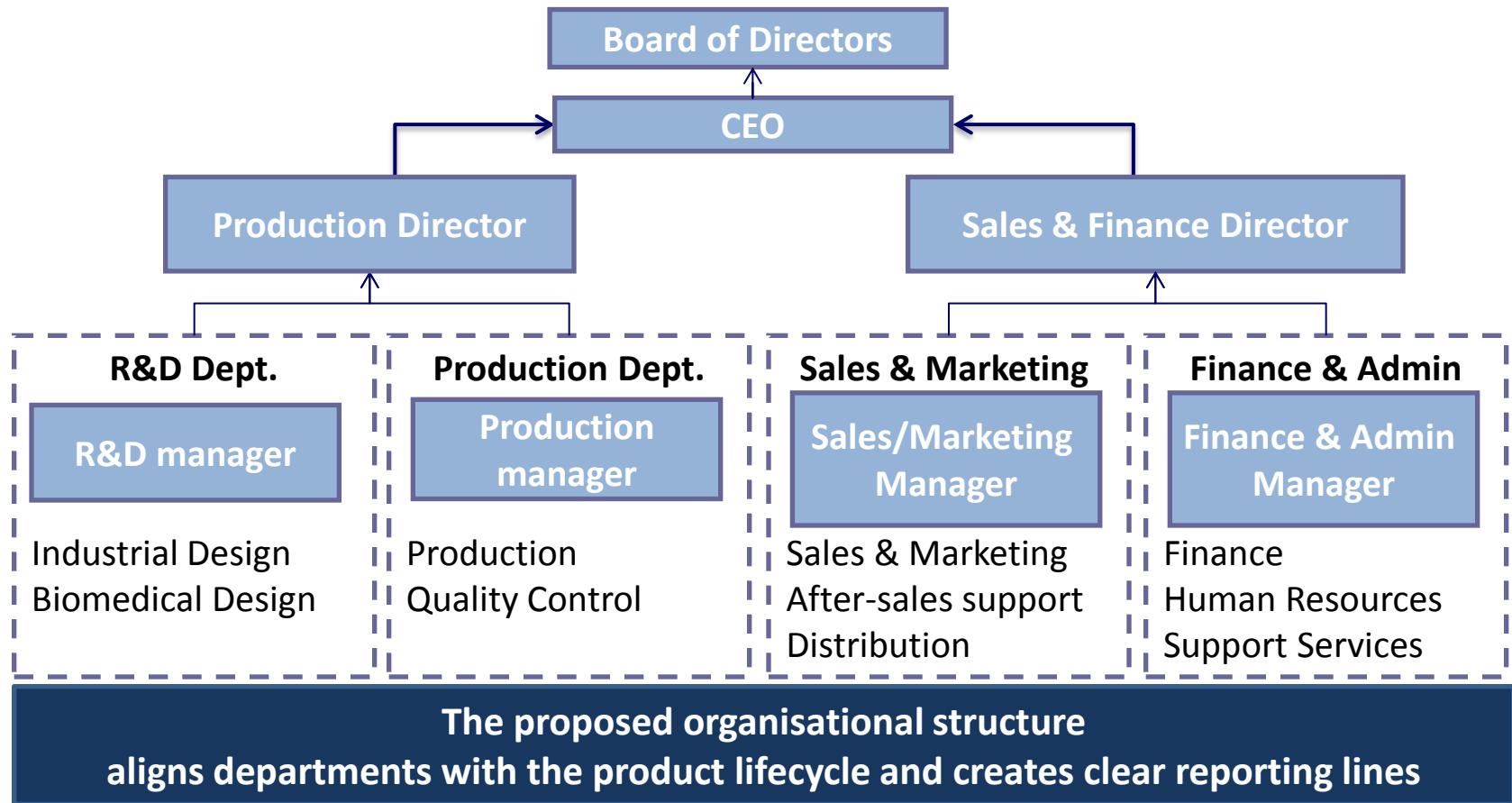
Organisational Structural Requirements

The priority areas include sourcing personnel for the proposed relocation to the Philippines with future expansion requiring an increase in staff and resources for the sales, finance, R&D and production divisions. For all of the following strategic partners will be a vital or even essential resource.

Sales & Marketing	<ul style="list-style-type: none"> • Increase and train sales force for international expansion • Ensure adequate capabilities to sell MTTS products in international markets 	<div style="background-color: #002060; color: white; padding: 10px; text-align: center;"> Internal resources + Strategic Partner(s) </div>
Finance	<ul style="list-style-type: none"> • Expand dedicated resources for account receivables and account payables • Expand resources to provide vendor finance and credit risk management • Partnership to manage rising costs and quality issues 	
Research & Development	<ul style="list-style-type: none"> • Expand expertise to allow the development of the proposed new product range • Share best practice for improvement of MTTS existing products and transfer existing technology to local contexts • Work with MTTS engineers to develop new products 	
Production	<ul style="list-style-type: none"> • Increase production team to allow future production targets 	

Proposed Organisational Structure

Current organisational structure mixes business and reporting lines, creating inefficiencies and overlap of roles and responsibilities. The proposed structure defines clear roles and responsibilities:

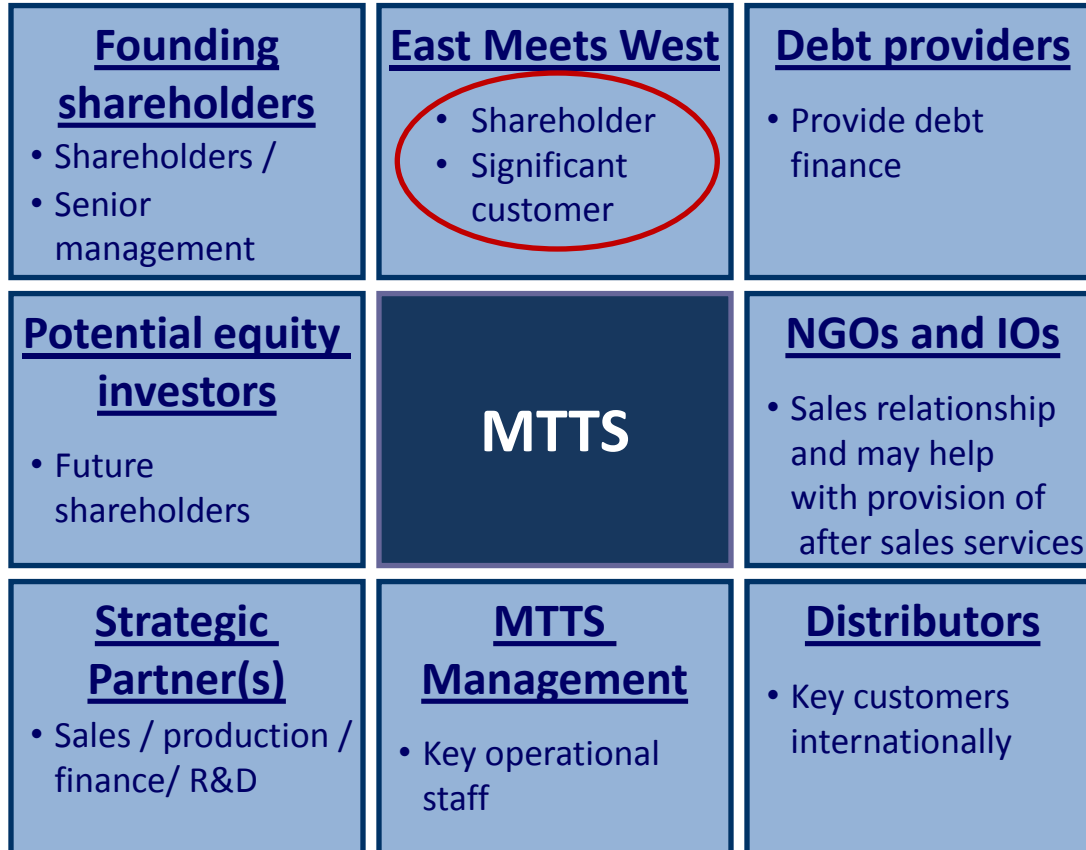


Key Roles and Responsibilities

Position	Responsibilities
CEO	<ul style="list-style-type: none">• Company strategic direction• International sales development and fund raising• Relationships with debt and equity providers• Overall financial performance• Key customer relationship management• The management team should be based at the company headquarters
Production Director	<ul style="list-style-type: none">• Production and quality control• R&D / product development
Sales and Finance Director	<ul style="list-style-type: none">• Domestic and international sales• After sales support and distribution• Finance and reporting• Office management and support services

Creating clear roles and responsibilities will minimise the risk of overlap of duties between the Executive Management Team

Key Stakeholders



Key governance challenges:

1. Relationship with EMW will require careful balancing of social and commercial needs. This is compounded by the fact that EMW will remain a key buyer of MTTs products
2. Monitoring and governance of overseas operations
3. Differing shareholder interests
4. Relationship with strategic partners, including leading medical technology companies

The MTTs business model involves numerous stakeholders across the business.

Stakeholder Interests

Stakeholder	Relationship	Interest
Founding shareholders	Shareholders Key management	<ul style="list-style-type: none"> Reasonable financial return Social benefits: Positive impact to child mortality rates in Vietnam and internationally
East Meets West	Customer	<ul style="list-style-type: none"> Procure high quality equipment tailored to the needs of developing markets it services
East Meets West	[Shareholder]	<ul style="list-style-type: none"> Fund MTTs to deliver on its mission Social benefit as set out above Financial return to allow further investment in
Debt providers	Debt providers	<ul style="list-style-type: none"> Financial performance to allow debt to be repaid Social benefits
Potential equity investors	Equity investors	<ul style="list-style-type: none"> Likely to be combination of social benefits and financial return - will depend on investor profile
NGOs	Sales + services	<ul style="list-style-type: none"> Provision of social benefits which align with their values
Strategic Partner(s)	[TBD]	<ul style="list-style-type: none"> [need to understand the partnership proposition]
MTTS Subsidiaries	International sales	<ul style="list-style-type: none"> Maximize profit in relevant overseas jurisdiction
Distributors	Key o/s customers	<ul style="list-style-type: none"> Maximize profit through sales of MTTs products

Strong governance is required given the differing interests amongst MTTs's key stakeholders.



FINANCIAL ANALYSIS

- Introduction
- Key Assumptions
- Financial projections (2014-2019)
- Financing Gap & Financial Options
- Funding requirements
- Potential funding sources
- Risk>Returns for Financial Options
- Current corporate structure
- Proposed corporate structure

Summary of Financial Analysis

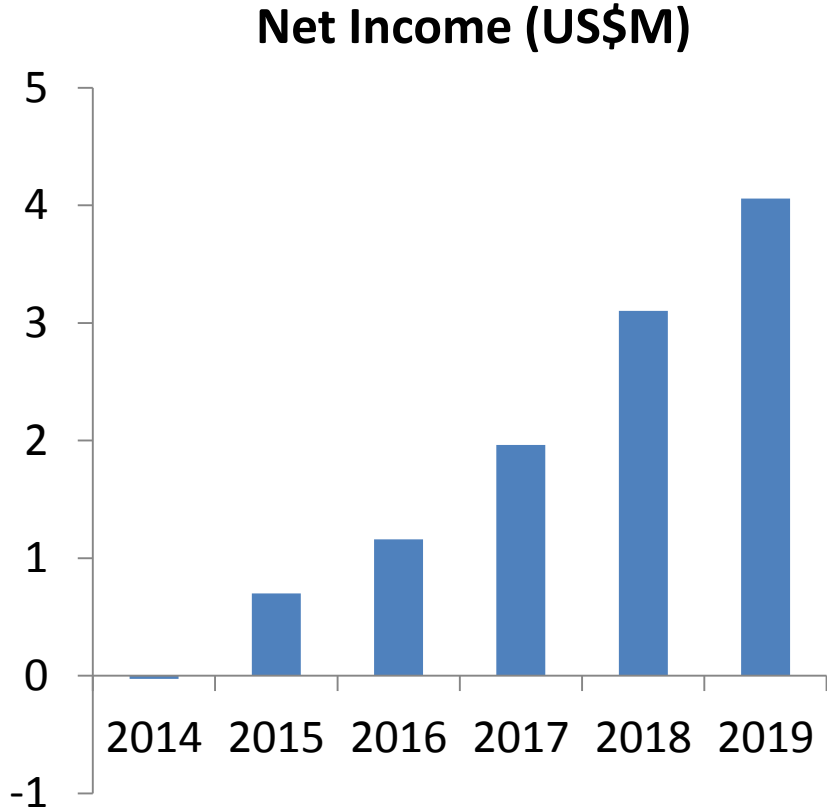
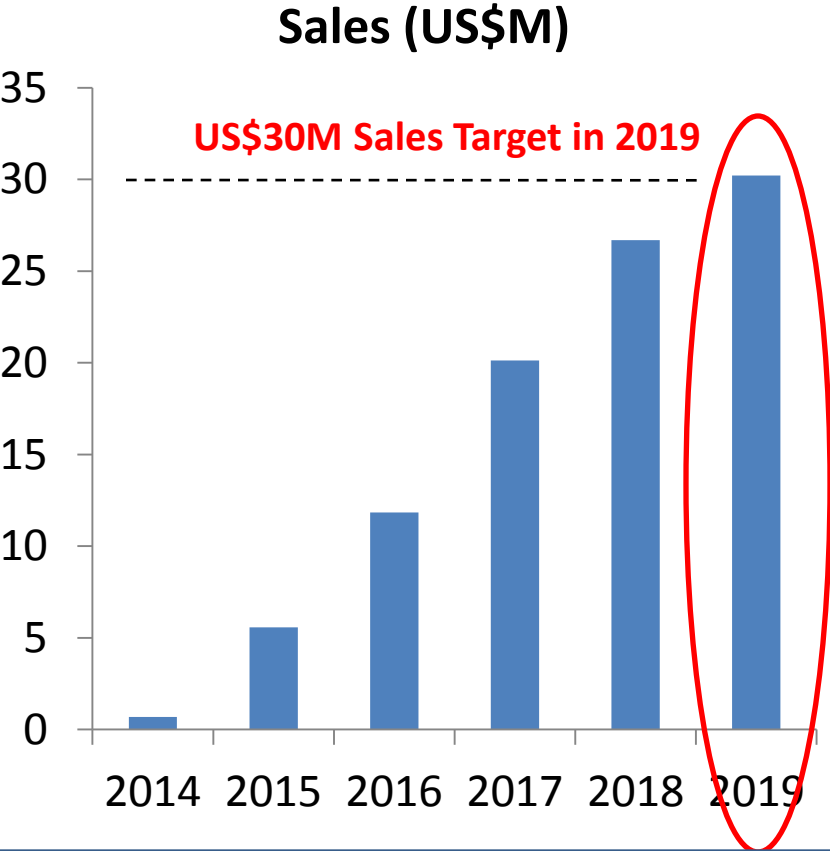
- At present MTTTS' market share in Vietnam is roughly 16% with a total market size of US\$2.5 million.
- Expansion will require outside funding of US\$1.5million to cover excess expenditures in the first two years. A mixture of debt and equity is recommended.
- Expansion into the Vietnamese private hospital sector should produce US\$1 million in sales with 30% market share. MTTTS' share of the public sector is expected to rise to 40% producing another US\$1 million in sales by 2019.
- By expanding into ASEAN with a marketing budget of US\$1 million and new products MTTTS can expect to achieve a market share of 20% by 2019 worth US\$13 million.
- Subsequent expansion into the rest of Asia can begin in 2017 and due to greater competition a market share of 5% worth US\$15 million is expected.
- Therefore MTTTS can **expect total revenues to be US\$30 million by 2019**. Gross margins will remain relatively unchanged at 40% despite the cost of developing new products due to economies of scale, producing **US\$4 million in income by 2019**.

Key Assumptions

Key Assumptions

- Existing product sales in international market sales driven by CPAP and Firefly
- 4 new products being introduced in 2015 with 5% of market share at market entry
- Selling, General and Admin Expenses (SG&A) and other expenses predicted to be 20-30 % of sales based on comparable analysis
- As sales increase, costs will decrease as a percentage of sales due to economies of scale and the relatively fixed nature of costs such as R&D and marketing.

Financial Projections (2014 – 2019)

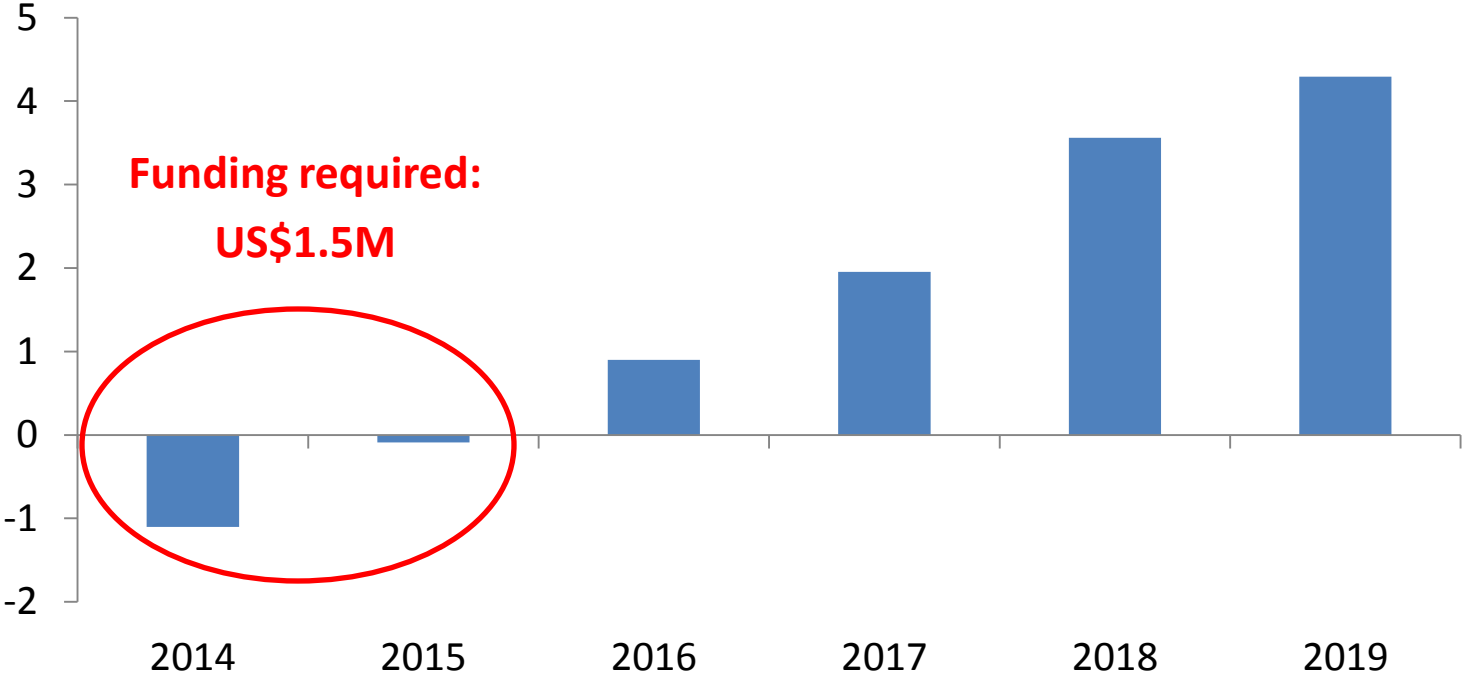


US\$30M sales target to be achieved in 2019, to be driven by both geographical and product expansion

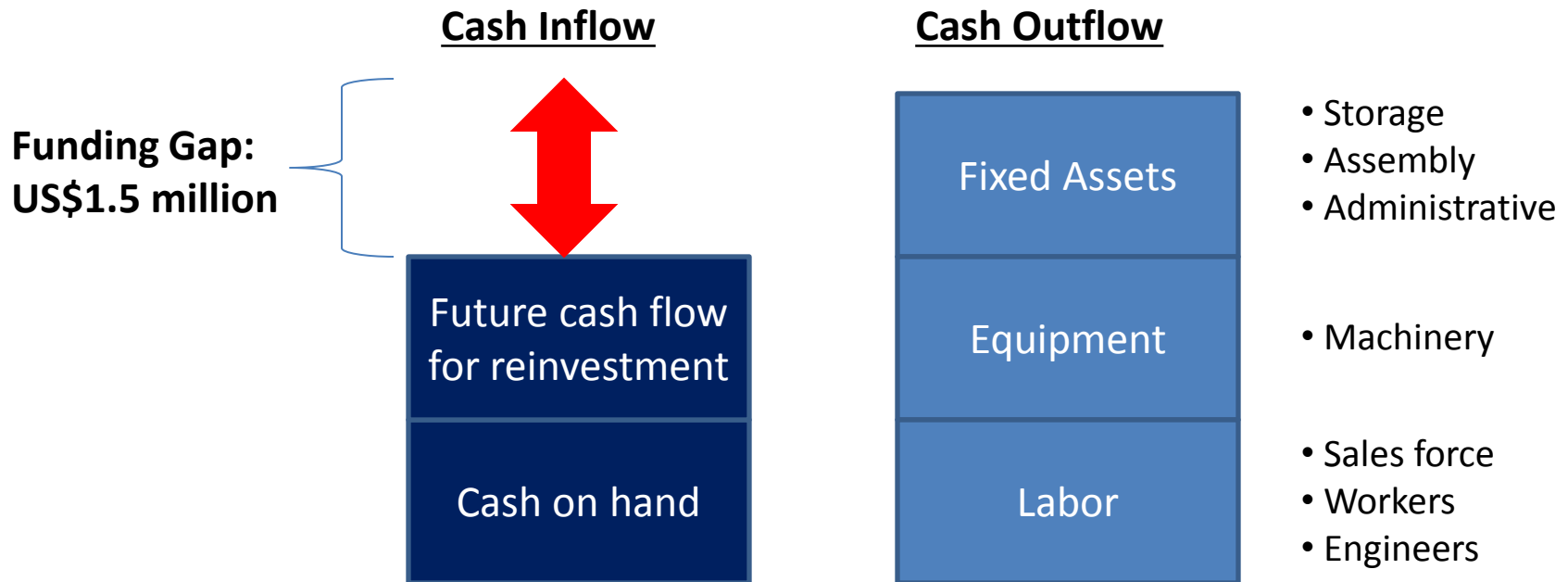
Financing Gap and Financial Options

Projected Cash Flow (US\$M)

- The net cash outflow for 2014 and 2015 is ~US\$ 1.2 million.
- Funding of US\$1.5 million is required to cover excess expenditures in the first two years.



Funding Requirements



Initial funding is necessary for properly implementing international expansion. An estimated one time expenditure of US\$1.5 million is needed to relocate the centre of MTTs production and operations to the Philippines

Potential Funding Sources

Equity

- Impact Investors such as Global Health, Elevor Equity etc.
- Strategic Partner
- Other private equity

Debt

- Loans from banks such as Bank for Investment and Development of Vietnam (BIDV)

Grant

- Possibility of grants from NGOs/ Health organisation on Research and Development
- Possible beneficiary of funding through corporate philanthropy from multinational companies

With a vision to grow, additional investment may be an option

Risk/Returns for Financial Options

- Due to the rapid expected growth of MTTs, dilution of ownership through equity should be avoided if possible.
- However, MTTs' current financial position may prevent it from securing a loan for the full amount, which would also be tied to a significant interest rate.
- Financing options should also be examined in the light of MTTs' status as a social enterprise and the opportunities to secure a low-to-no interest loan

Donation/Grant

- ✓ Historical funding source
- X Insufficient to support future expansion
- X Volatile and unpredictable
- X Tied to specific projects and agendas, with resources spent on reporting

Equity

- ✓ Share company's social mission
- X Dilution on ownership
- X Seek higher returns than creditors

Debt

- ✓ No dilution of future profits
- ✓ Supports scalable funding platform
- X Comes with high credit/interest risk

It is recommended that MTTs pursue a mixture of both debt and equity financing.

Funding Recommendations

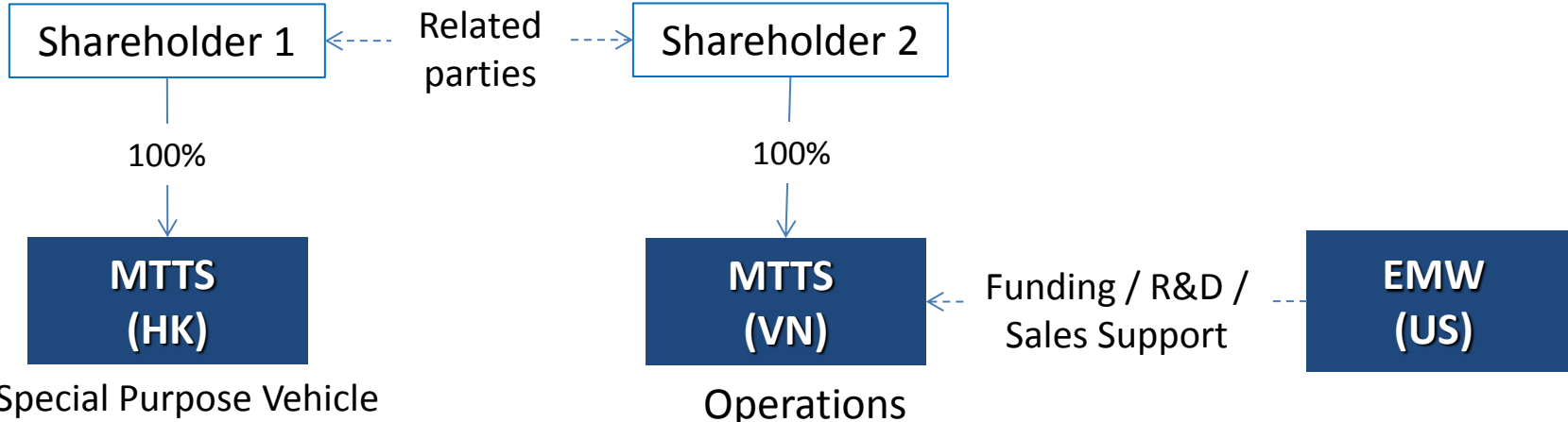
- Due to the high expected interest rate a company in MTTS' current position can expect from a loan (roughly 20% p.a.) it is recommended MTTS seek an equity investor to provide funding for roughly half the required funding – US\$750,000
- Given the company's rapid expected growth, (US\$30.2mio in sales and US\$3.9mio net income in 2019, ~40% ROE 2015-2019) equity investors can expect a significant return depending on the terms of their investment. Given the time sensitive nature of the investment required, these terms are likely to be favorable to the investor
- However, prospective investors should bear in mind the social nature of MTTS' business and the goals of its existing leadership will mean that it is unlikely to seek to maximize profits at the expense of social returns
- The remaining capital expenditure can be covered by debt to prevent excessive dilution of equity and at 20% interest will result in a manageable interest payment of US\$150,000 p.a.



There is opportunity for an equity investor to make significant returns by entering early

Current Corporate Structure

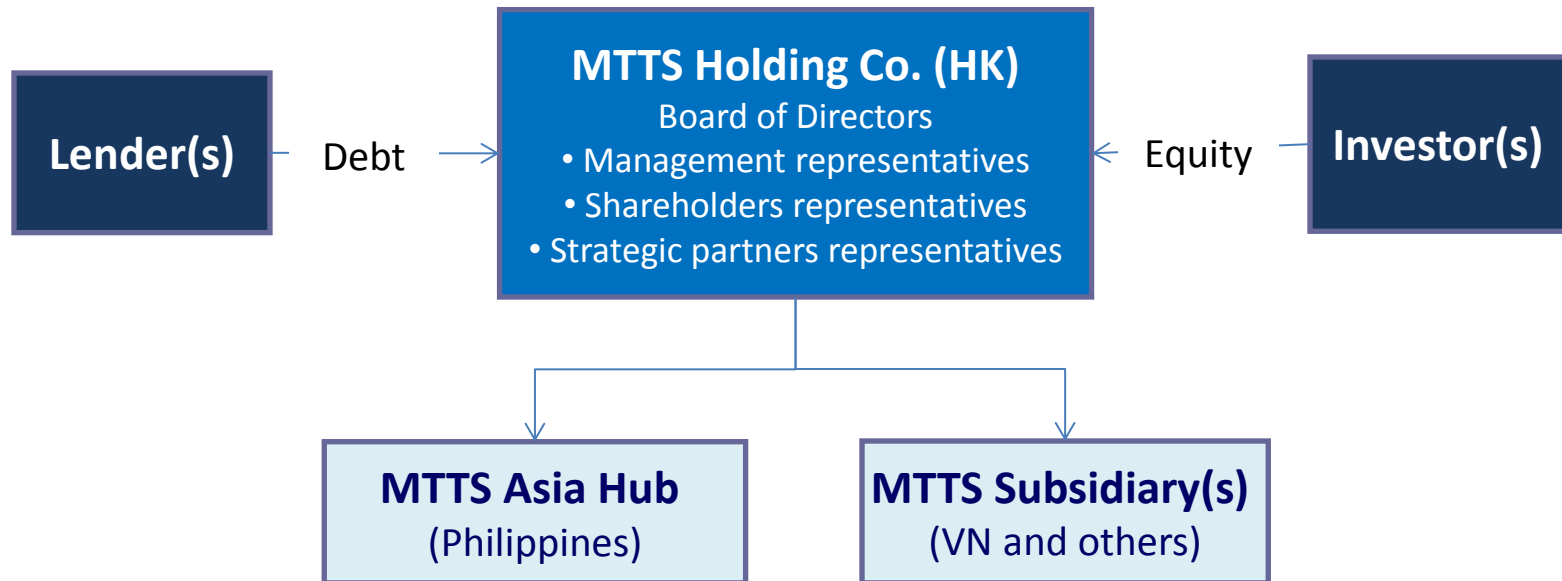
The current corporate structure **limits MTTs's ability to grow** as it is not set up to facilitate additional investment or contain any formal governance.



A new structure is required to allow for future investment

Proposed Corporate Structure

The proposed structure **allows debt and equity investors** to invest through the group holding company which has a formal Board of Directors, while allowing overseas operations to be established through subsidiary entities.





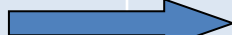

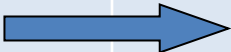
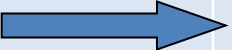

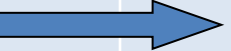


IMPLEMENTATION & ASSESSMENT

- Implementation Timeline
- Risk & mitigating actions
- Financial and Social Impact

Implementation Timeline

The proposal has been designed as a 5 year plan for MTTs to grow, revamp existing operations and engage with strategic partners.

	Y2014	Y2015	Y2016	Y2017	Y2018	Y2019
Headquarters		Move centre to Philippines				
R&D	R&D for new products and improvement		New Product launch			
Strategic partners	Identify and engage key partners					
Business expansion	Recruit and train sales team	ASEAN		Rest of Asia		Africa
Organisation	Set-up core management team and new governance structure					
Finance	Secure funding and/or investment					

Timely implementation would made MTTs more competitive.

Risks and Mitigating Actions

RISK	RISK MITIGATION
Market penetration risk: failure to identify strategic partners for the support of product development and to access new markets	<ul style="list-style-type: none"> • Enter markets where MTTTS has a higher chance of identifying strategic partners or with EMW relationship • Consider direct sales channels
Market Risk: Risk after market entry, market environment in certain countries may be more competitive than expected	<ul style="list-style-type: none"> • Conduct due diligence ahead of time and focus on markets • Develop alternative products
Political : Political environment becomes unstable	<ul style="list-style-type: none"> • Not put key functions into the market that has high political risk • Diversify operations
Legal Risk: Change in regulations or legal environment with implication on business operations	<ul style="list-style-type: none"> • Monitoring the change in the legal environment • Maintain good relations with the government
Funding Risk: There is risk in identifying potential investors to provide capital for future expansion	<ul style="list-style-type: none"> • Scale down proposed expansion • Focus on domestic market

Financial and Social Impact

Indicators	Y2014	Y2015	Y2016	Y2017	FY2018	Y2019
Projects sales (US\$M)	0.7	5.6	11.8	20.1	26.7	30.2
Net Income (US\$M)	(0.1)	0.6	1.0	1.8	3.0	3.9
ROE (%)	-9.0%	36.9%	39.8%	41.4%	40.1%	34.6%
<u>Number of babies treated</u>	Assumption: Based on capacity of treating 18 babies and 100 babies per machine by CPAP and Firefly respectively on an annual basis					
From Firefly	25,000	50,000	160,000	320,000	450,000	520,000
From CPAP	0	5,400	28,800	57,600	81,000	93,600
Total	25,000	55,400	188,800	377,600	531,000	613,600

Every neonatal equipment sold has the potential to save the lives of premature babies suffering from jaundice and RDS in the developing world

Conclusions

- 99% of newborn deaths occur in developing countries, which are precisely the countries least able to afford the medical equipment necessary to prevent them
- MTTs develops low-cost equipment specially designed to operate in the difficult conditions many births take place in and where more expensive Western machinery becomes inoperative
- However, MTTs' current business model relies on the support of donor funded agencies such as East Meets West, and is vulnerable to shifts in donor funding
- The proposed business model is a plan for the next 5 years for MTTs to overcome this challenge and build on its successes to date by expanding its business into ASEAN and the rest of Asia, delivering the sales volume to reduce costs and pay for greater R&D and marketing, which can be supported by strategic partnerships, i.e. global healthcare technology providers.
- Due to the high cost of debt for a company in MTTs' position, investors have an opportunity to invest US\$750,000 (50% of the funding requirements) for a stake in a company with prospects for rapid growth as well as extremely important social returns

Investment in MTTs has the opportunity to generate both a financial return and important social impact to save the lives of newborns



RECOMMENDATIONS

General recommendations for EMW and MTTTS

Recommendation	Description
1. Confirm relationship between EMW and MTTTS & corporate structure	<ul style="list-style-type: none">• It is assumed that EMW will acquire a stake in MTTTS in the coming months• The ownership structure and governance should be determined to support future investment (debt and equity)• Define clear roles and responsibilities for EMW and MTTTS (Board of Directors, Shareholders. Management team)
2. Ensure the core management team has experience in the private sector	<ul style="list-style-type: none">• The CEO, Production Director and Sales and Finance Director to have strong business acumen and connections in the healthcare/finance sectors to drive MTTTS' business growth• The management team should be based at the company headquarters
3. Branch out for partner engagement	<ul style="list-style-type: none">• Consider a range of potential partners to benefit both EMW and MTTTS:<ul style="list-style-type: none">• Public and civil sector• Private sector, particularly leading medical technology companies• Marketing, financial, technology, supply chain and manufacturing• Leverage EMW connections with the public sector (Ministries of Health) and status as NGO to gain preferential treatment on funding options

Recommendations for MTTTS (1/2)

Description	Recommendations
1. Expand Sales and Marketing	<ul style="list-style-type: none">Recruit and train a dynamic sales team to be incentivised by commissions
2. Expand into new markets	<ul style="list-style-type: none">Expand sales into key overseas markets in ASEAN (including the Philippines, Myanmar, Indonesia & Cambodia), and eventually in the rest of Asia and into Africa (5+ years)
3. Invest in R&D (in-house) for increased product range	<ul style="list-style-type: none">Improve existing products in neonatal care to meet customer demands and diversify into consumable products
4. Rebrand MTTTS	<ul style="list-style-type: none">Re-brand current MTTTS to reflect a more positive and renewed image, closer to MTTTS's mission

Recommendations for MTTTS (2/2)

Description	Recommendations
5. Transfer operations to the Philippines	<ul style="list-style-type: none">• Move operations to the Philippines where manufacturing and shipping costs are lower and highly skilled labour is available• Proximity to new markets for MTTTS
6. Seek additional funding	<ul style="list-style-type: none">• Seek additional funding to allow future expansion: priority should be given on R&D (product innovation) and strengthening the sales team
7. Identify and engage strategic partners for business expansion and operations	<ul style="list-style-type: none">• Seek Strategic Partners to support R&D, Production, Sales and Distribution activities, especially with leading medical technology companies or leaders in the healthcare industry
8. Corporate Structure & Governance	<ul style="list-style-type: none">• Implement corporate structure and governance to support future investment



APPENDIX

Expansion in Vietnam

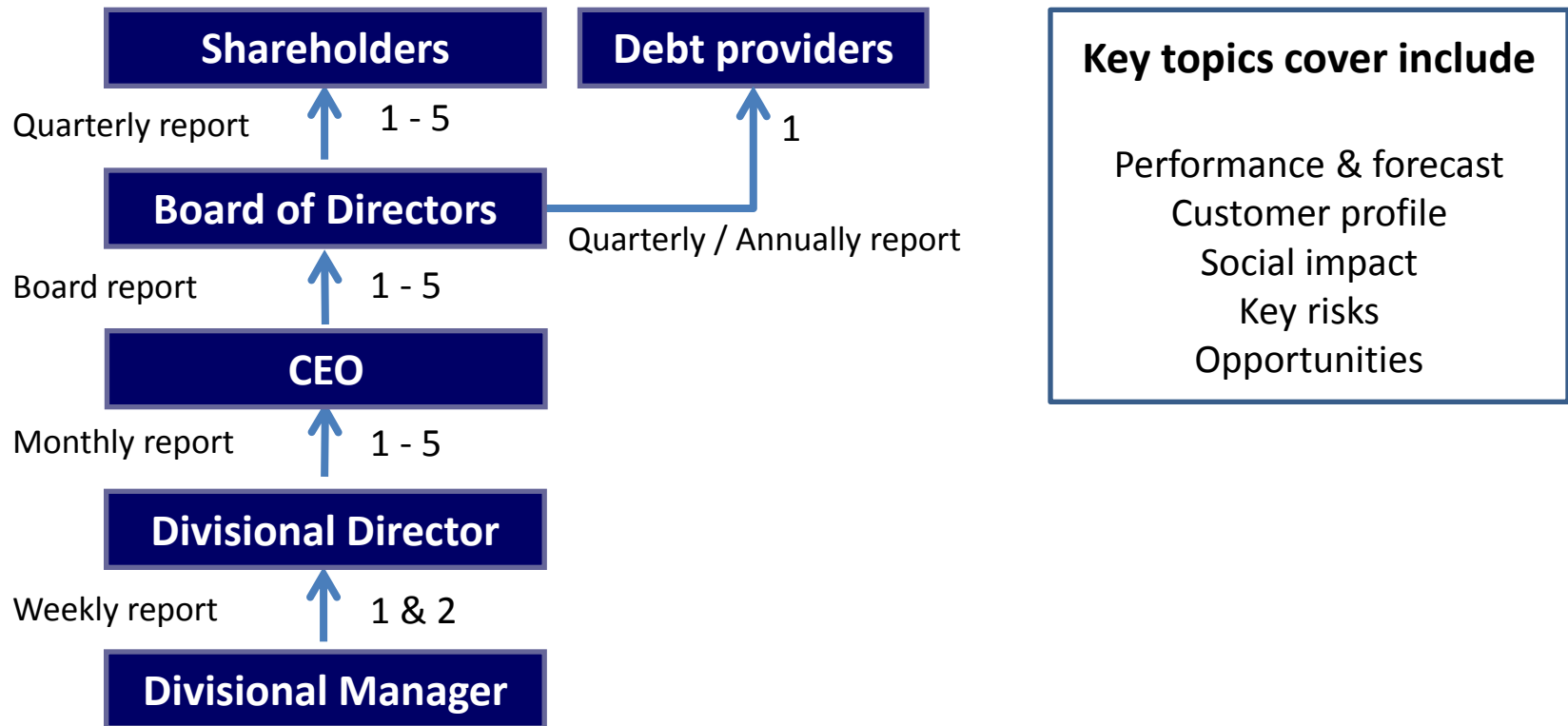
Private Hospital Opportunities in Vietnam (Examples)

No	Hospital name	No	Hospital name
1	Vinmec international hospital	13	Japan Clinical Laboratories Vietnam Ptd. Co
2	Hong Ngoc Hospital	14	Hop Luc hospital
3	Thanh An SG hospital	15	Bao Long hospital
4	Trang An Hospital	7	Binh Dan Da Nang hospital
5	An Thinh Obstetrics & Gynecology Hospital	8	Viet france hospital
6	Hong Ha Hospital	16	Nguyen van Thai hospital
7	Binh Dan Da Nang hospital	16	Hạnh Phúc OBG Hosp
8	Viet france hospital	17	Vạn Hạnh Hosp (IVF)
9	Hoan My Da Nang hospital	18	SaiGon International OBG Hosp

MTTS needs to target above private maternal and neonatal hospitals

Monitoring and Reporting

The below framework provides appropriate level of monitoring and reporting and ensures the business is adequately governed in the short term and as the business grows.



Contact Information

If you or your organisation are interested in the proposal, please contact:

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