Mälardalen University
Department of Biology and
Chemical Engineering

Global Regulatory Requirements for Medical Devices

Sandra Brolin

Supervisor at Synergus AB
Lian Zhang

Examiner at Mälaren
University
Sven Hamp

Abstract

Medical devices are becoming more important in the health care sector. One of the major issues for companies developing and producing medical devices is to be updated on the regulatory requirements and implement them in the process. This thesis examines the regulatory requirements for medical devices in Argentina, Australia, Brazil, Canada, India, Japan, Mexico, Russia, South Korea and Taiwan and compares them with the requirements in the European Union.

The conclusion of this thesis is that most countries have similar requirements for registration of medical devices and are striving to harmonize with the GHTF guidelines. A company goes far by following the requirements in EU, USA or the GHTF guidelines.

Table of content

1. Introduction

Medical devices are becoming more important in the health care sector. Today there are more than 8000 generic medical device groups where some devices contain drugs [1]. This increases the demand for better regulatory frameworks to ensure that products entering the market are safe and efficient. One of the major issues for companies developing and producing medical devices is to be updated on the regulatory requirements and implement them in the process. A company that does not succeed with this may loose thousands of dollars in the delay of marketing the product [2].

1.1 What is A Medical Device?

A medical device is according to the European definition "any instrument, apparatus, appliance, material or other article, whether used alone or in combination, including the software necessary for its proper application intended by the manufacturer to be used for human beings for the purpose of:
- Diagnosis, prevention, monitoring, treatment or alleviation of disease,
- Diagnosis, monitoring, treatment, alleviation of or compensation for an injury or handicap,
- Investigation, replacement or modification of the anatomy or of a physiological process,
- Control of conception,
and which does not achieve its principal intended action in or on the human body by pharmacological, immunological or metabolic means, but which may be assisted in its function by such means" [3].

This means that medical devices are everything from band aids to x-ray machines, contact lenses, hip implants, pacemakers, crutches, hospital beds and in vitro diagnostic devices.

Medical devices are usually divided into subgroups. In Europe medical devices are divided into three different groups; active implantable medical devices (AIMD), general medical devices and in vitro diagnostic devices (IVD). These groups are recognized and used by other countries as well. The main difference between countries is how these devices are regulated. In some countries medical devices are regulated as drugs and in other countries there are special regulations for medical devices. Medical devices can in turn be regulated as one group or regulated separately, usually as one of the subgroups.

In Europe general medical devices are divided into non invasive devices, invasive devices and active devices. An active medical device is a device that requires a source of energy to function. An invasive medical device is a product that in some way enters the human body. The device is then called invasive, surgically invasive or implantable depending on how the device is entering the body and the time it is introduced to the body. An in vitro diagnostic device is a reagent, reagent product, instrument or system used to examine samples from human tissues or fluids to gain information. In vitro diagnostic devices are also divided into subgroups [2].

1.2 Classification of Medical Devices

Medical devices are usually divided into different classes. Some countries have separate classification systems for general medical devices, active medical devices for implantation and in vitro diagnostic devices while other countries classify these products after the same system. All classification systems are risk based. Classification of medical devices is necessary to apply correct regulations and quality systems.

In the United States medical devices are classified as class I (General Controls), II (Special Controls) or III (Pre-market Approval) devices where class III devices represent the highest risk and require more control. Medical devices are classified through a classification database found at the FDA homepage and are given a seven digit number based on the product category [4].

In the European Union general medical devices are classified as class I, class I sterile, class I measuring, class IIa, class IIb or class III where class III devices represent the highest risk. Active implantable medical devices are not classified and in vitro diagnostic devices have their own classification system. Information on the European classification system is found in MEDDEV 2.4/1. The classification rules are found in Annex IX of Directive 93/42/EEG [2].

The Global Harmonization Task Force described further down has developed a recommended classification system where medical devices are divided into class A, B, C and D where class D represents the highest risk. This system is however a recommendation to regulatory authorities and not to companies. Information on the GHTF recommended classification system is found in the GHTF document Principles of Medical Devices Classification.

A nomenclature is usually given to a medical device when it is classified. There are two international nomenclatures that are very common:

- The Emergency Care Research Institute (ECRI) nomenclature called the Universal Medical Device Nomenclature System (UMDNS). The UMDNS terms are harmonized with the classification system of the USA and exist in ten languages [5].
- The Global Medical Device Nomenclature (GMDN) codes.
  The GMND code is built according to EN ISO 15225 and is a collaboration between the EU, EFTA, USA and Canada [6]. The GMDN terms only exist in English but can be translated with special software. This nomenclature system is required for registering a medical device within the EU [7].

Both systems consist of defined terms that describe a group of products with similar characteristics. The GMDN system is developed from 6 different nomenclature systems and the UMDNS system is one of them. GMDN and UMDNS harmonize with each other but GMDN has more terms and is therefore preferred [8].

1.3 Quality Management Systems

Manufacturers of medical devices need to apply suitable quality systems for their products. The requirements differ on the risk of the device and are usually dependent on the product class.

Good Manufacturing Practice (GMP) is the most common requirement but there are also other quality guidelines (GXP's). There is Good Clinical Practice (GCP) describing quality requirements for clinical trials, Good Laboratory Practice (GLP) describing quality requirements for laboratories and research organizations to ensure consistency and reliability of results, Good Distribution Practice (GDP) for proper distribution of medical products and Good Vigilance Practice (GVP). These guidelines and several others have been established by International Conference of Harmonization (ICH) and have been adopted by USA, EU and others. Most countries have their own variations of the guidelines and these are usually found at the homepage of the competent authority [9].

The International Organization for Standardization (ISO) has developed a standard for quality management system for medical devices called ISO 13485. This standard is based on ISO 9001:2000 and helps companies implement and maintain a quality management system. This standard is by many countries recognized as a way to reach Good Manufacturing Practice. The most important medical device standards concern biocompatibility ISO 10993, clinical trials ISO 14155 and risk management ISO 14971. Active medical devices are also subject to ISO/IEC 60601 and medical devices including software are subject to IEC 62304 [2].

1.4 Regulation of Medical Devices

Manufacturers of medical devices need to adjust to the regulatory framework in the country where the product is sold. This constitutes a great problem for manufacturers, especially for companies selling their products in several countries. Competent authorities worldwide have begun to realize the problem and collaborate to harmonize the regulations.

The Global Harmonization Task Force (GHTF) is a group of representatives from regulatory authorities in USA, European Union, Japan, Australia and Canada that work to harmonize the regulations for medical devices and improve the safety, effectiveness and quality of the devices. The group has developed guidelines for pre-market evaluation, post-market surveillance, quality systems, auditing and clinical safety/performance. Many countries have begun to adopt these guidelines or follow the United States Food and Drug Administration (FDA) regulations or the European Medicines Agency (EMEA) regulations. Medical device requirements are basically the same in most countries but are implemented in different ways [10].

USA

The FDA regulates food, drugs, medical devices, biologics, cosmetics and radiation emitting products in the USA. FDA's Center for Devices and Radiological Health (CDRH) is responsible for regulating manufacturers of

medical devices. Medical devices are regulated under the Federal Food Drug & Cosmetic Act (FD&C Act) Part 800-1299.

Manufacturers importing medical devices into the USA must designate a United States agent, register the establishment, list the device, manufacture according to the quality system requirements and file a Premarket Notification 510 (k) or a Premarket Approval. A post marketing surveillance system is required (21 CFR Part 803). Medical devices are divided into Class I, Class II and Class III where class I devices represent the lowest risk and class III devices represent the highest risk. Most Class I devices and some Class II devices are exempt from a Premarket Notification 510 (k). Class II devices generally require a 510 (k) while Class III devices require a Premarket Approval. Devices shall be given a device product code consisting of two numbers and three letters describing what type of device it is. Regulation for establishment registration and medical device listing is found in 21 CFR 807. The establishment registration shall be renewed once a year and the device listing updated once a year between October 1st and December 31st. Good Manufacturing Practice (GMP) shall be applied according to 21 CFR Part 820. Some devices of Class I are exempt from GMP requirements [4]. The international standards for risk management ISO 14971 and biocompatibility ISO 10993 are accepted [11].

European Union

The European Medicines Agency (EMEA) is a decentralized body of the European Union (EU) whose responsibility is to protect human and animal health through the evaluation and supervision of medical products for human or animal use. This information is found at the EMEA homepage. Medical devices are subject to Directive 93/42/EEC and must be CE-marked before entering any country in the EU. Active implantable medical devices are subject to Directive 90/385/EEC [12]. Manufacturers of drugs and medical devices who want to sell their product to a country in the EU only submit one single marketing authorization application to the EMEA. The documentation shall be written in English, French or German. A manufacturer that does not have a registered place of business in the EU shall designate a single authorized representative in the European Union.

Medical devices are divided into class I, class IIa, class IIb and class III where class I also have the subclasses sterile and measuring. The devices shall have a GMDN code. All medical devices exempt class I devices require the involvement of a Notified Body. Medical devices and their accessories are treated as medical devices. Medical devices must meet the essential requirements in Annex I of Directive 93/42/EEG. Standards are used to meet and demonstrate compliance with the essential requirements. Manufacturers of medical devices must have a quality system[3]. ISO 13485 is normally used [2]. Clinical trials are required for active implantable devices, class III devices and invasive devices for long-term use of class IIa and IIb. Instructions for use are not necessary for class I and IIa devices if they can be used safely without them. A registration of a product is valid for five years [3].

2. Aim

The aim is to find out the regulatory requirements for medical devices in Argentina, Australia, Brazil, Canada, India, Japan, Mexico, Russia, South Korea and Taiwan and to compare them with the requirements in the USA and the European Union.

The regulatory requirements for medical devices shall concern laws and regulations, standards and the product registration process including classification of medical devices and the implementation of quality systems.

The information in this work primarily concerns general medical devices but information concerning active implantable medical devices and in vitro diagnostic devices might in some cases also be mentioned when it has been easily found.

3. Methods

The information for this thesis is mainly from the internet and the local authorities that are in charge for the medical products in each country respectively.

4. Result

4.1 Argentina

4.1.1 General Information

The medical device market in Argentina is sizeable but difficult. The economy is recovering since the bottom in 2002 but the market is still demanding cheap products. About one third of the healthcare infrastructure is located in the province of Buenos Aires and the hospitals and clinics are of generally high standard [13]. Government institutions and private organizations usually call for public bids and the hospitals make their own purchasing decisions [14].

Argentina is a member of the Southern Common Market (Mercosur) together with Brazil, Paraguay and Uruguay [15] [16].

4.1.2 Regulation

Medical devices are regulated by The National Administration of Drugs, Foodstuffs and Medical Technology (ANMAT) under the Ministry of Health. Medical products in Argentina and importers of medical devices must be registered with ANMAT. The importer is responsible for registration of medical devices. Technical information shall be submitted with the registration including documents that are legalized by the Argentine Consulate or Embassy in the product's country of origin. Additional voluntary technical regulations are issued by the Standards Institute of Argentina (IRAM) [14].

According to resolution 3802/2004 a medical device produced in or imported to Argentina must show conformity with Mercosur Technical Regulations for Registration of Medical Products. The resolution gives the definition of a medical device, describes labeling requirements, recognizes established risk assessment categories and the medical device nomenclature. The Argentine ANMAT

disposition 2318/2002 defines a medical device, describes the registering process, the classification rules and the required technical documentation.

4.1.3 Classification

Medical devices are divided into class I, II, III and IV where class I represents the lowest risk and class IV the highest risk. In vitro diagnostic devices are counted as a separate group. The classification rules are the same as in the European Union (EU) except that the Argentine class II represents the EU class IIa, the Argentine class III represents the EU class IIb and the Argentine class IV represents the EU class III. Class I devices are the same for both [17]. Argentina has adopted the Emergency Care Research Institute (ECRI) nomenclature called the Universal Medical Device Nomenclature System (UMDNS) [14].

4.1.4 Product Registration

To register a product a company must have an office or a local distributor in Argentina registered with the Ministry of Health. The importer is responsible for registering the product and must submit documentation notarized by the Argentine consulate or embassy [14].

The product must be classified according to the MERCOSUR system. All medical devices shall meet the essential requirements in disposition 4306/99. Good Manufacturing Practice (GMP) for medical devices shall be applied and certified according to disposition 191/99. A risk analysis and results from clinical trials are required for medical devices class III and IV. Recognized standards are ISO/TR 16142, ISO 17025, ISO 14971 and IEC 60601-61610 [18]. The manufacturer or importer must have a post marketing surveillance system that shall be documented. The manufacturer or importer must register all reclamations and send a copy of the form to Sistema National de Tecnovigilancia at ANMAT, signed by an authorized person, declaring the number on the reclamation [19].

.

The technical documentation required for product registration is found in Disposition 2318/02, annex III B and annex III C. Manufacturers and importers of medical devices class II, III and IV need to provide following information together with the application:

- A declaration of payment of the corresponding product registering fee.
- Information for identification of manufacturer and/or importer of the medical device and the product described according to annex IIIA, IIIB and IIIC in disposition 2318/02, declaring the legal and technical responsibility.
- A copy of the manufacturers/importers allowance to commercialize its medical device (a certificate of company authorization) and a description of the relationship between the manufacturer, exporter and the importer. A certificate of company authorization can only be given to a company that already has a GMP certificate.
- For imported medical devices a Certificate of Free Sale or equivalent documentation from a competent authority is required from where the medical device is produced or commercialized.

- A declaration of conformity with the MERCOSUR legislation.

Manufacturers and importers of medical devices class I need to provide the information in the first two points and the last point.

Operation manuals, instructions for use, labels and catalogs shall be submitted with the application. Instructions for use are not required for medical devices class I and II if the utilization of the device is guaranteed to be safe. Information provided with the medical device shall at least be in Spanish. Symbols and colors for identification shall be adjusted to the Mercosur regulations. If there are no regulations for a symbol or color they shall be described in the documentation accompanying the medical device.

The competent authority evaluates the presented documentation of interest within 180 days. The registration of medical devices is valid for five years [17].

More specific information is found in Annex 1.

4.2 Australia

4.2.1 General Information

Australia represents a large and highly advanced medical device market. Australia ranks as the 11th largest healthcare market in the world and counts as one of the richest in the Asia-Pacific region. The medical device industry has a growth rate of 15% per year and has a market capitalization of about 4 billion Australian dollars.

Public hospital purchasing is varying from state to state. Generally purchases are conducted centrally but there are exceptions. In some states hospitals are allowed to purchase medical equipment within their own budget. A small company is recommended to have a local distributor [20] [21].

4.2.2 Regulation

The Therapeutic Goods Administration (TGA) is the competent authority for medical devices in Australia. TGA is a unit of the Australian Government Department of Health and Ageing and is responsible for administering the provisions of the legislation under the Therapeutic Goods Act 1989 (the Act). This act covers both medical devices and AIMD's.The organization is divided into several parts where the Office of Devices, Blood and Tissues is responsible for medical devices.

On 4 October 2002 a new GHTF harmonized regulatory system was introduced by the Therapeutic Goods Regulations 2002, here called the Regulations [22] [23]. The transition period for the new system ended on 4 October 2007 [24].

Medical devices must be registered in the database Australian Register of therapeutic Goods (ARTG) before entering the Australian market. Sponsors are recommended to use the Devices Electronic Application Lodgement system (DEAL) for the applications [22] [23].

Sponsors have the responsibility for all activities concerning medical devices while manufacturers have obligations to fulfill the requirements [25].

4.2.3 Classification

Medical devices are divided into five classes; class I, class IIa, class IIb, class III and Active Implantable Medical devices (AIMD). Class I represents the lowest risk and class III and Active Implantable Medical devices the highest risk. Class I devices includes low risk devices that are sterile and/or have a measuring function. AIMDs are treated as class III devices [23].

In vitro-diagnostic devices (IVDs) are divided into four different classes; class I, II, III and IV. Class I devices present no public health or a low personal risk. Class II devices present a low public health risk and moderate personal risk. Class III devices present a moderate public health risk or high individual risk. Class IV devices present a high public health risk [26].

Medical devices are given Global Medical Device Nomenclature (GMDN) codes [27].

4.2.4 Product Registration

The sponsor is responsible for registering the medical device in the ARTG [28]. Before doing this the medical device must be classified according to the Australian system and suitable quality management systems must be applied and risk analysis been done to comply with the Essential principles described in Schedule 1 of the Therapeautic Goods (Medical Devices) Regulations 2002 [29]. A post marketing surveillance system is an obligation on the manufacturer but the sponsor is the responsible legal entity and shall therefore participate in the system [30].

A quality management system is required for medical devices class IIa, IIb, III and AIMDs to get a conformity assessment certificate approved. Standards are recommended to use, but are not mandatory. Australia has its own standard orders but the international ISO standards can be used. Standards for quality management systems (ISO 13485), risk management (ISO 14971), clinical trials (ISO 14155) and biocompatibility (ISO 10993) are recommended depending on the type of medical device [31]. The manufacturer is required to have made a documented risk analysis of the product. This is according to the Australian Essential principles 1 and 2, ensuring safety of the medical devices.

There are three documents that are necessary to register a medical device in Australia; a conformity assessment certificate which can be issued by TGA or an overseas notified body, a Declaration of Conformity and an application to include the medical device in the ARTG [25, 32]. The conformity assessment certificate is not required for medical devices class I that does not have a measuring function or are intended to be supplied in a sterile state [33]. Manufacturers with a CE certificate must give TGA following information:

- Copies of the current CE certificates hold by the manufacturer
- Copies of the Initial Certification audit report
- Copies of the current CE design Examination Or Type Examination Certificate, if applicable
- Copies of the Design Examination or Type Examination reports issued by the Notified Body in support of the certificate, if applicable
- Evidence of close out of non-conformities

The manufacturer is also required to submit the information required under Quality System Documentation (Section 5.0 of the attached form), a completed essential principles checklist, risk management report, clinical evidence and labeling, instructions for use and advertising material. For class III devices and AIMDs the manufacturer shall also submit a Design Dossier which is a compilation of quality management system design and development records showing conformity to essential principles.

TGA may on review of this information conduct a reduced assessment of the quality system or may in some cases do an on-site audit [34].

Information provided with the medical device shall at least be in English. If a device belongs to class I or II and the device can be used safely for its intended use without instructions a document of instructions for use need not to be provided with the device [29].

The registration is valid for five years [35].

More specific information is found in Annex 2.

4.3 Brazil

4.3.1 General Information

The medical device market in Brazil ranks among the top ten in the world. Year 2006 the Brazilian medical device marked was valued at US$ 2,585 million and the Brazilian economy was ranked as the 12th largest in the world year 2007, according to Epsicom. The medical device market is estimated to exceed US$ 3 billion in year 2011. The import is low but the demand of more high tech medical devices increases the market
[36]. Medical devices are sold through public bids [37].

Brazil has a well-established medical device industry with local and multinational companies, supplying about 70% of the market [36]. Most of the companies are situated in southeastern or southeast Brazil in São Paulo or Paraná [38].

Brazil is a member of the Southern Common Market (Mercosur) together with Argentina, Paraguay and Uruguay [15] [16].

4.3.2 Regulation

The National Health Surveillance Agency (ANVISA) or in Portuguese Agencia Nacional de Vigilancia Sanitaria (ANVISA) is the competent authority for medical devices in Brazil. All medical devices, diagnostic kits, immune-biological products and sanitation products must be registered with ANVISA before getting out on the Brazilian market [39].

Medical devices are regulated by Law No. 6360 of 1976, decree 74.094/97 [40]. Resolution RDC-185 of October 22, 2001, is the main resolution for medical devices. This resolution describes the required documents for registering a product and it contains a registration protocol. Resolution RDC No. 206 of November 2006 describes the requirements for registering in vitro diagnostic devices [41].

4.3.3 Classification

Medical devices are divided into Class I, Class II, Class III and Class IV. Class I devices represents the lowest risk and Class IV devices the highest risk. This is according the GHTF proposals and the Brazilian Class I represents the European Class I, Brazilian Class II represents the European Class IIa, Brazilian Class III represents the European Class IIb and the Brazilian Class IV represents the European Class III. The classification rules are found in Annex II of Resolution RDC 185, October 22, 2001. The Brazilian rules are identical to the European rules except for Rule 8 and 13 [42]. Brazil has adopted the Universal Medical Device Nomenclature System (UMDNS) [14].

In vitro diagnostic devices are divided into six different groups together describing a total of 87 families of devices according to the document “Famílias de Produtos Diagnósticos de uso In Vitro” at the ANVISA homepage.

4.3.4 Product Registration

To register a medical device with the Brazilian Ministry of Health the manufacturer must have an office in Brazil or have a local distributor in Brazil authorized by the Brazilian authorities to import and distribute medical devices. The distributor is responsible for registering medical devices. The Brazilian importer of medical devices must have an import license, a so called Automatic License, or if requested a Non-Automatic Licese (LI). Manufacturers and importers of medical devices must have an “Autorização de Funcionamento” or in English called Company Working Allowance before registering their product.

The product must be classified as a class I, II, III or IV device and the essential principles must be met [42]. The essential principles are found in resolution RDC/ANVISA No. 56 of the 6 of April 2001.

A certificate of Brazilian good manufacturing practice (in Portuguese Boas Practicas) is required and a copy of the certificate shall be submitted with the registration application. Information on requirements for Brazilian GMP is found at Boas Práticas de Fabricação at ANVISA’s homepage. Usually Brazil accepts U.S. product standards and certifications by U.S. testing laboratories such as

Underwriters Laboratory [40]. Active medical devices under IEC 60601-1 must be certified by an INMETRO accredited test agency (Notified Body) and display the INMETRO marking [43].

Risk management is mandatory for all implantable devices, intrauterine devices and plastic bags for blood. Brazil has adopted the risk management standard ISO 14971 as a national standard. Requirements for risk factors are found in the essential principles. [44], [45].

New products and products with innovative technology require clinical trials [46].

A post marketing surveillance system is required and adverse events shall be reported with special electronic forms found at NOTIVISA at the ANVISA homepage.

The required documentation for registration of a medical device is:

- A copy of payment bank receipt provided by ANVISA. A “Declaração do porte da empresa” or in English a “Declaration of company fee” shall also be submitted with the application.
- Identification of the manufacturer or importer and its medical device according to Annex III A, III B and III C in RDC 185/01 declaring the technical and legal responsible.
- A copy of authorization of the manufacturer to import and commercialize its medical device in the country. When authorized to export or import the commercial relationship between the exporter/importer and the manufacturer must be described.
- A copy of registration or certificate of free trade or equivalent document issued by the competent authority where the product is manufactured and/or commercialized. In Portuguese it is called “Registro ou certificado de livre comércio do produto no exterior”.
- A declaration of conformity

Medical devices class I only require the documentation in the first two points and the last point [42].

Two label samples shall be submitted with the application and two copies of instructions for use shall be submitted with the application. Medical devices of class I and II do not need this information if they can be used safely without it. The information shall be in Portuguese [40] [42].

More specific information is found in Annex 3.

4.4 Canada

4.4.1 General Information

Canada is a technologically advanced nation with a growing medical devices industry. The country ranks No. 1 among the G7 nations as the most cost-competitive investment location in the medical devices sector and is located next to the USA who is the world’s largest medical device market. Canada has about

500 medical devices manufacturing firms, most of them are in Ontario but also Quebec and British Columbia.

Canada is a member of North American Free Trade Agreement (NAFTA) and has signed Mutual Recognition Agreements (MRAs) for medical devices with the European Union, Norway, Iceland, Switzerland and Liechtenstein for conformity assessment of regulated products [47].

4.4.2 Regulation

Health Canada, under the authority of the Food and Drugs Act, regulates the sale of drugs and medical devices in Canada. Health Canada is divided into two parts; Health Products and Food, and Therapeutic Products Directorate. Medical Devices Bureau is under Therapeutic Products Directorate which is divided into Device Evaluation, Licensing Services and Research and Surveillance [48].

Medical Devices in Canada are subject to the Medical Devices Regulations (referred to as the Regulations) under the Food and Drugs Act [49]. The Regulations set out the requirements governing the sale, importation and advertisement of medical devices [50].

4.4.3 Classification

Medical devices and in vitro diagnostic devices are classified through different systems but the systems are dividing them into class I, class II, class III and class IV. Class I devices represent the lowest risk and class IV devices the highest risk. The risk-based classification system is harmonized with the device classification systems of the European Union and United States. Class I, II, III and IV generally corresponds to the European class I, IIa, IIb and III [48] [49].

Schedule 1 in the Regulations gives the criteria for classification. Part I sets out the rules for classifying medical devices other than in vitro diagnostic devices and Part II sets out the rules for classifying in vitro diagnostic devices.

Medical devices are given Device Identification (ID) numbers. Medical devices can also be given device preferred name codes from the Medical Device Bureau. The codes are harmonized with those of the United States [51].

4.4.4 Product Registration

To register a product the device must be classified as a class I, II, III or IV product. Quality management systems must be applied for all medical devices except class I products. Canada has adopted ISO 13485:2003 as a Canadian National Standard and labeled it CAN/CSA-ISO 13485:2003. For class II devices the quality system must satisfy the requirements for CAN/CSA-ISO 13485:2003, excluding design. For class III and IV devices the quality system must satisfy the requirements for CAN/CSA-ISO 13485:2003, including design [49]. The manufacturer shall identify the risks inherent in the device [52]. In the Device License Application for class IV devices a risk assessment is required. It is recommended to work according to the standard ISO 14971 [53].

Distributors and importers of medical devices need to obtain an establishment license exempt for custom-made devices and devices imported or sold for special access. This is also required for manufacturers of medical devices class I. Manufacturers of class I products selling solely through a licensed establishment do not need an establishment license. To sell or advertise a class II, III or IV product in Canada manufacturers need a device licensing but not an establishment license although distributors and importers do. Manufacturers also need a declaration of conformity. Custom-made devices class III and IV requires authorization from the Ministry of Health for importation into Canada [48].

There are licenses for Single Devices, Medical Device Family, Medical Device Group, Medical device Group Family, System and Test Kit.

Information required in the Application for a New Medical Device License is:
Device classification
Device name
Application history
Name and Address of Manufacturer as it appears on the device label
Mailing address for Regulatory Correspondence
License Application Type
Device Preferred Name Code (Optional)
If the device is a near patient IVDD
If the IVDD is sold for home use
Device Usage Category
If the device contain a drug
Purpose of the device
Device detail
List of Standards Complied with in the Manufacture of the Device (Only class II)
Attestation of Safety and Effectiveness (Only class II)
Attestation of labeling (Only class II)
Attestation of investigational testing for IVDDs (Only class II)
Evidence of safety and effectiveness (Class III and IV)
Attestation of drug safety, efficacy and quality
Signature

Information on each part above and what differs between the classes is found in "Guidance on How to Complete the Application for a New Medical Device License" and "Preparation of a Premarket Review Document for Class III and Class IV Device License Applications" [54]. Other information is found in the Regulations, Part I, 32.

Medical devices shall have directions for use and storage conditions and the intention of the device shall be described. The information required shall as a minimum be in English or French. The label shall also have a control number if it is a class III or IV device, an indication of what the package contains, the word "Sterile" if the device is intended to be sold in a sterile condition and the expiry date of the device.

The Mandatory Problem Reporting section of the Regulations sets out the rules for what types of incidents to be reported, time frames for reporting and content of the reports. These rules are harmonized with the European vigilance reporting requirements [52].

More specific information is found in Annex 4.

4.5 India

4.5.1 General Information

The Indian medical device market ranks top 20 in the world and top four among the Asian countries [55]. The economy in India is growing rapidly. GDP is now growing with a rate of 10% per year and the medical device market is following the trend [56]. In 2005 the medical device market in India was estimated to 1318 million US dollars [57]. In 2007 Pacific Bridge Medical expected the medical device market in India to grow with 12-16% for the next five years.

The expanding middle class population and the rich population demand high tech products for reasonable prices. Low tech products are produced domestically to very low cost and are therefore not of interest for foreign companies [55]. The purchase of medical devices is done through global tenders issued by government owned and private hospitals [58].

4.5.2 Regulation

The Department of Health under India's Ministry of Health and Family Welfare is responsible for the jurisdiction over the regulation of medical devices. The Central Drug Standard Control Organization (CDSCO) in the Ministry of Health is primarily responsible for regulation of drugs but also medical devices, diagnostic devices and cosmetics.

India has no specific regulation for medical devices [58]. Medical devices are freely imported into India, except for implantable devices, diagnostic kits and sterile devices which are required to be registered [58][59]. Products that do not require registration are evaluated by the purchaser in term of quality. Pharmaceuticals and medical devices defined as drugs are regulated under the Drug and Cosmetics Act 1940 and the Drugs and Cosmetic Rules 1945 and must be registered before they can be sold in India. Medical devices defined as drugs require a registration certificate and an import license before being sold on the market [60].

In 2006 a proposal of a new legislation was published for review. The proposed act is called The Medical Devices Regulation Bill 2006. The new act will come into force 31st of December 2009 [61].

4.5.3 Classification

The Ministry of Health classifies the medical devices. There are two types of classes; life saving medical equipment and non life saving medical equipment. If a

medical device is classified as a life saving medical equipment it will have reduced duty [58]. Sterile devices are defined as drugs [60].

In the Medical Devices Regulation Bill 2006 medical devices are proposed to be classified as class A, B, C and D according to the GHTF guidelines. India has as a member of the Asian Harmonization Working Party adopted the Global Medical Device Nomenclature (GMDN) system [62].

4.5.4 Product Registration

Medical devices defined as drugs must be registered with the Ministry of Health and have an import license to be sold in India. Other devices are not subject to this yet but will be under the new legislation. Medical devices not defined as drugs only require an import license. Medical devices defined as drugs are subject to the current legislation the Drug and Cosmetics Act and the Guidelines for Import and Manufacture of Medical Devices.

Quality systems for medical devices do not exist, although CE-marked or FDA approved products are preferred because of their quality and performance [58]. Manufacturers of medical devices defined as drugs must apply Good Manufacturing Practices (GMP) and conduct suitable tests to prove the product quality. The quality systems shall concern design, development and manufacture. This kind of devices also requires risk management in form of ISO 14971.

The registration shall be done according to Rule 24A of the Drugs and Cosmetic Act and Form 40 shall be filed. The applicant can be the manufacturer, the importer or the responsible agent in India [60].

The Drugs Controller General India (DCG (I)) wants applicant details such as name, address and contact number of the applicant. The department also wants name and addresses of the manufacturer and the manufacturing premises, the importer, the local authorized representative and the local manufacturer if there is one. A copy of the Plant Master File shall be submitted with the application. The information required in the Plant Master File is described in the Clarifications on Guidelines for Import and Manufacture of Medical Devices.

Information on approval in other countries such as US clearance, CE certificate or approval in Australia, Canada or Japan shall be documented and copies of ISO or EN certificates submitted. A list of countries where the product is sold and a list of countries where the product has been withdrawn from the market and the reasons for the withdrawal are required.

Product information, a GMP certificate and a master file are necessary. The master file shall have a description of components and materials used and information on the manufacturing process including flow charts, quality assurance procedures and process controls, risk management according to ISO 14971 and test protocols and reports for stability, biocompatibility, toxicology and validation/verification of sterilization where these tests are applicable [60].

Labeling of devices according to GHTF guidelines or ISO specifications is accepted [63].

Manufacturers of medical devices shall have documented procedures for distribution records, complaint handling, adverse incident reporting and product recall [60].

A registration of a medical device defined as a drug is valid for five years [64].

More specific information is found in Annex 5.

4.6 Japan

4.6.1 General Information

The Japanese healthcare standards are among the highest in the world and the medical devices market is one of the largest in the world. The elderly population in Japan is increasing and with that the demand of better and safer healthcare is rising [65]. Year 2005 the Japanese spent almost 300 billion dollars per year on healthcare and nowadays that number is probably even more [66]. The demand of cost effective medical devices is huge. The most wanted medical devices have been stents, artificial joints and implants, CT, MRI and other image reading software [65].

Important regions in Japan concerning healthcare, medical devices and biotechnology are for example Osaka, Saitama, Shizuoka and Chiba [67].

4.6.2 Regulation

The Ministry of Health, Labor and Welfare (MHLW) is responsible for food, medical care, labor policy and labor standards and social welfare. The Pharmaceutical and Food Bureau within the ministry is responsible for pharmaceutical and medical device regulatory policy making. An instance called the Pharmaceuticals and Medical Devices Agency (PMDA) is responsible for the registration of medical devices.

In 2005 a new law came into effect which is harmonized with international requirements. The law is called the New Pharmaceutical Affairs Law (PAL) [66]. The main difference with international requirements is that Japan has special requirements for buildings and facilities of manufacturing sites [68].

A manufacturer must work according to a Market Authorization Holder (MAH) system. With this system the manufacturer is only responsible for production and the MAH is responsible for the release of the product to the market. This MAH can be a distributor, a third party or the manufacturing company itself if it has an office in Japan [66].

4.6.3 Classification

The Japanese classification system is hard to get a real insight to. The definition of each class is described from Paragraph 4 to 8 of Article 2 of the PAL where

paragraph 4 describes the definition of a medical device. The classification information is only available in Japanese.

Medical devices are divided into General Medical devices (Class I) described in paragraph 7, Controlled Medical Devices (Class II) described in paragraph 6 and Specially Controlled Medical Devices (Class III and IV) described in paragraph 5.

IVD medical devices are classified as medical devices but no IVD medical devices are classified as class IV. IVD reagents belong to class II. Usually the MAH classifies the product [68]. A company shall use the Japanese General Nomenclature which is based on GMDN [69]

4.6.4 Product Registration

The main requirement on manufacturers is to have a Market Authorization Holder (MAH). The MAH can be a distributor, a third party or an office of the manufacturer that consists of three controllers with each responsibilities; General Manager, Quality Assurance Controller and Post-marketing Safety Controller [66].

Japan also has requirements on quality systems and risk management. For manufacturers of medical devices certificates of Japanese Good Manufacturing Practice (GMP) and Good Vigilance Practice (GVP) are required [68]. The certifications are done by third party certification bodies. These certification bodies have to be Japanese and can not be a European Notified Body. Examples of third party notification bodies are TUV SUD, BSI Japan and Japanese Standards Association [69]. The MAH is responsible for risk management. ISO 14971 has been adopted by Japan but is not mandatory [70]. ISO 13485 facilitates certification of Japanese GMP but Japanese GMP has special requirements for buildings and facilities of manufacturing sites [68].

A medical device manufacturer in Japan needs to obtain two licenses. One is the license given to a MAH and one is the license for manufacture. Foreign medical device manufacturers do not need a MAH license themselves, or a license for manufacture, but need to register their company. This registration requires the same as for license for manufacture. The application for registration shall be completed by the foreign manufacturing facility but regulations allow for a MAH to apply on behalf of the foreign facility. All documents must be in Japanese although the attachments can be in English but with a Japanese translation.

A manufacturer must also obtain a device notification, device certificate or device approval depending on the type of device. Medical devices class I require a device notification, medical devices class II require a device certificate and medical devices class III and IV require a device approval.

Clinical trials are not necessary for class I, in principle not necessary for class II, some times necessary for class III and in principle necessary for class IV. The acceptance of foreign clinical data is low although it is officially accepted [69].

Manufacturing sites of labeling need to fulfill certain requirements. The labeling medical device manufacturer shall for each of the products establish Seihin

Hyojun Sho. The company shall for each batch ensure that the packaging and labeling materials of the product are proper [68].

In Japan it is mandatory to follow Good Vigilance Practice (GVP). It is the post-marketing safety controller of the MAH who is responsible for reporting any incidents related to a medical device [71].

More specific information is found in Annex 6.

4.7 Mexico

4.7.1 General Information

Mexico is the second largest medical device market in the Americas. The market was in 2007 about 2.2 billion US dollars, which per capita is 20 dollars. Most of the medical devices are imported. The majority of the imports are from the US. This is mainly because of the North American Free Trade Agreement (NAFTA). The last two years the import from the USA has been decreasing from 70% to 62% of the import market share but the total medical device market is increasing.

In Mexico medical devices are usually sold through agents and distributors. Public institutions purchase through open invitations published in the official gazette, while private institutions often requests quotes from several suppliers [72].

4.7.2 Regulation

Medical devices are regulated by the Secretariat of Health (Secretaría de Salud) [73]. According to Article 262^{o} of the Mexican General Health Law the medical devices must be registered with the Secretariat of Health before marketing. The Federal Commission for Protection of Sanitary Risks (COFEPRIS) is in charge of registering any healthcare product [74]. It permits licenses authorization and regulation. Its role is also standards developments, sanitary risk management and auditing vigilance and regulation compliance with law enforcement [75].

The sanitary regulation is a system of preventive actions taken by the Mexican government to regulate and control the sanitary conditions of the human habitat, the establishments, products, equipment, activities and persons that represent a risk to the public health. The regulatory system consists of mandatory standards known as NOMs and voluntary standards known as NMXs [73].

The medical devices that are subject to regulation in Mexico are:

- Diagnosis Reagents
- Instrumental and medical equipment
- Surgical and Medical Care Materials
- Prosthesis and Orthesis
- Odonthological Articles
- Hygienic products

4.7.3 Classification

Medical devices are classified according to a catalogue. The catalogue for instrumental and medical equipment describes three areas; instrumental, medical equipment and material for prosthesis and orthesis. Medical equipment is divided into the following groups:

- Active devices
- Imaging
- Implantable devices
- Mechanics
- Nuclear medicine
- Optical
- Prosthesis
- Radio therapeutics
- Rehabilitation
- Ophthalmologic
- Surgical instruments

Medical devices are divided into the three different risk classes I, II and III depending on the knowledge of the medical device and if it is implantable or not [75].

The products are given a generic name and a 10 digit code according to the Clave Cuadro Básico found in the catalogue "Cuadro Básico y Catálogo de Instrumental Equipo Médico". Mexico has also approved the GMDN system [76].

4.7.4 Product Registration

All medical devices must be registered with the Mexican Secretariat of Health to be imported into Mexico. To be able to market a product in the country the manufacturer must have an office or a distributor in Mexico. The local representative is responsible for the registration and submits all required product information to the authority. All information must be translated to Spanish by an official translator [74]. The product must be classified as a class I, II or III medical device and been given a preferred term for product identification. Suitable quality and risk management systems must be applied and necessary tests shall have been done approved by accredited Mexican test laboratories. Good manufacturing practice is required and risk management is a way to guarantee the safety and efficacy of a device. International standards might be used.

Documentation required to be submitted with the application is:

- Representative/distributor's name, address and telephone, tax id number
- Name and address of the company/institution that will prepare or store the product
- Name, address in the country of origin, telephone and fax number of the medical device manufacturer
- Name and signature of the responsible person in Mexico
- Copy of a sanitary certificate from the sanitary authority in the country of origin

- Copy of the authorization of the responsible person (who must be a chemical engineer or physician at the company) from the Mexican distributor or representative's office
- Technical and scientific information proving the safety and efficacy of the product
- Description of the product including its intended use, structure, parts, function and raw materials
- Original and copy of the product's manual and proposed label in Spanish
- Description of the product's manufacturing process
- Documents and certificates that affirm compliance with good manufacturing practice and other standards
- Laboratory test results and a signature from the sanitary responsible person in a domestic or foreign institution verifying the product's specifications.
- Bibliographic references
- Certificate of free sale from the country of origin authority
- A copy of the Agent/Distributor Agreement. This document is only required if the product not is manufactured by the parent company laboratory or manufacturing plant.
- Original and two copies of the registration fee payment receipt [73].

Medical devices (and in vitro diagnostic devices) intended to be sold and used by consumers on the Mexican market must follow the mandatory labeling standard NOM-137-SSA1-1995 [73].

All companies with a registered product must have a vigilance system. The Mexican pharmacovigilance system is described in the standard NOM-220-SSA1-2002. PROY-NOM-240-SSA1-2005 describes how a proposed vigilance system looks like. Distributors and commercializes of registered medical devices are obligated to inform the Secretariat of Health of adverse events and suspected adverse events. CNFV shall be informed of all technovigilance activities [77].

The approved registration belongs to the manufacturer. The manufacturer can always change distributor but must inform the Secretariat of Health of that [73]. The sales permit belongs to the distributor [74]. An import license is required before the product can be sold [73].

More specific information is found in Annex 7.

4.8 Russia

4.8.1 General Information

Russia is an unstable market both politically and economically. The economy is slowly getting better and the medical device market is growing [78]. In 2003 the medical device market was estimated to 1.4 billion dollars. However, in 2002 only about one fifth of the population had access to quality healthcare. The public healthcare stood for 3.7% of GNP in 2002 [79].

Today it is relatively easy to import and market a medical device in Russia [80]. The domestic production of medical devices is concentrated to cheap low-tech products which makes the demand for imported high tech devices large. In 2003 imported products stood for about 75% of the medical device market. Most of the medical devices are imported from Germany, with USA on the second place [79].

4.8.2 Regulation

The Federal Service for Control over Healthcare and Social Development (Roszdravnadzor) is the competent authority in Russia for registration of medical devices. Foreign manufacturers work through the Department of Registration of Foreign Medical Equipment and Devices [81]. In June 2000 a new instruction Instruction No. 237 on registration procedures for foreign-made medical equipment and devices was introduced [80].

Foreign manufacturers of medical devices must register their product with the competent authority, obtain a GOST-R quality and safety certification and obtain a sanitary and epidemiological conclusion [81].

4.8.3 Classification

Medical devices are divided into medical equipment and supplies. The definitions of the product types are unclear and medical equipment can therefore be registered as a supply, or medical equipment.

Medical equipment is classified and given nomenclature according to the General Classification Codes (OKP system). Russia does not use any of the international classification systems. All import and export of medical devices is however subject to Foreign Trade Classification (TNVED) codes [80].

4.8.4 Product Registration

Medical devices need to be registered with the Federal Service for Control over Healthcare and Social Development before entering the Russian market. A manufacturer needs to have a local office, distributor or consultant that handles the communication with the authority. The business language at these meetings is Russian. The product must be defined as a medical device and classified according to the OKP system for registration and TNVED for importation.

Manufacturers of medical devices must meet the Russian quality and safety standards set by Gosstandart. Foreign manufacturers shall submit a certificate of applied international standards with the registration application and send samples of the device for testing to special accredited laboratories. To get a permission to import a product the manufacturer of a medical device must have a GOST-R quality and safety certificate and sanitary and epidemiological assessments. A product will not be approved until the Department of Registration of medical Equipment and Devices has reviewed and approved the test results [81]. Risk management is a part of the GOST-R certificate [82].

The first step in the registering procedure is for the authorized local representative to have a meeting with an expert from the Department of Registration of Foreign Medical Equipment and Devices. Necessary documents for the registration shall be submitted to the meeting. The department examines the documents and decides what kind of tests is necessary. The next step is to send samples of the product to an accredited test laboratory in Russia [81]. The testing period often lasts more then three months [83]. The results from the tests are sent to the Department of Registration of Medical Equipment and Devices for a final review. The authority approves the product and issues a certificate or denies the registration [81].

The required documentation submitted with the application for registration is:

- A letter from the manufacturer describing the manufacturer's intention to apply for registration of the product (official language of the manufacturer and a Russian translation).
- A Power of Attorney to the authorized representative (a legal entity) to conduct registration. The document shall be legalized in the manufacturer's country of origin and if the country is part of the Hauge Convention of 1961 the application shall have a stamp called Apostille.
- Reference material on the medical product
  The reference material shall contain information on the medical device such as the purpose and area of application of the product, a brief description of its usage and information on when the product was developed and launched into production and which world markets it is sold in. The document must be in Russian or have a Russian translation.
- An exact and complete description of the product and its components (if necessary).
- A picture of the medical device
- Advertising illustrative materials
  This material can be provided in another language than Russian.
- Documents on registration of the manufacturing company in the country of origin and/or third countries. Examples of required documents are Certificate of Company Registration or patent for the right to conduct certain business activity. The documents mentioned here are not manufacturing licenses.
- Documents on the registration of a product in the country of origin as a measurement device. These documents are required if they are available.
- National or international documents confirming the conformity of the medical device to the requirements of national and international normative documents and describing the manufacturing process. Some examples are a Declaration of Conformity, Certificate of Free Sale and standards certificates
- Manufacturer's operational manual in Russian and manufacturer's price list on its letterhead

The documents described in the last four points shall be originals or notarized copies which have undergone legalization or have an Apostil from the Russian Consulate office in the country of origin [80] [81] [83].

Most of the documents must be in Russian. The registration certificate for medical equipment is valid for ten years while the registration certificate for a supply is valid for five years [83].

More specific information is found in Annex 8.

4.9 South Korea

4.9.1 General Information

South Korea is an important country for commerce, not only for medical devices [84]. The import market is one of the largest in the world and the Korean medical device market consists to about 60 % of imported devices. In 2005 the total medical device market was about 2.5 billion dollars. The health expenditure per capita is high but has decreased from $1135 in 2004 to $705 in 2006, according to WHO.

One of the major problems in Korea is that the population is getting older. In 2006 9.5% of the total population was 65 years old or older and in 2020 it is estimated to be 15.7% [84].

4.9.2 Regulation

The Ministry of Health and Welfare (MHW) is the competent authority responsible for the import of medical devices. Under it is the Korea Food and Drug Administration (KFDA). This agency regulates all medical devices under Korea's Medical Device Act which was passed by Korea's National Assembly in 2003, implemented year 2004 and fully enforced May 30, 2007. All medical devices require pre-market registration from KFDA and need to meet Korean Good Manufacturing Practice (KGMP) before they can be imported into Korea or manufactured in Korea [85].

Manufacturers of medical devices shall follow the regulation concerning medical devices approval, the regulation for reviewing the medical devices standard and its test methods, the regulation concerning the designation of medical devices and the regulation for reviewing the safety and effectiveness of medical devices [86].

4.9.3 Classification

Medical devices are classified as class I, II, III or IV devices where class I devices represents the lowest risk and class IV devices the highest risk. In vitro diagnostic devices and some reagents belong to class I unless they are categorized as pharmaceutical products. There are separate regulations for IVD instruments.

The medical device classification system is similar to the European system but it is necessary to check that the product is defined as a medical device; it might not be the case. If a product is not listed in the Korean system the authorized representative can contact the KFDA for a classification determination but it can take up to 90 days [85]. The Asian Harmonization Working Party which South Korea is a member of has accepted the GMDN system [87].

4.9.4 Product Registration

To market a medical device in Korea the product must be approved for sale in the country of origin. A certificate of Foreign Government or Certificate of Free Sale shall be submitted with the product license application. The manufacturer must have a local distributor or a local office in South Korea. Foreign manufacturers without an office in Korea may not apply for registration directly to KFDA, instead they may allow their importer or an independent third party to do the registrations in their own name. Distributors must register as importers or have an independent consultant that holds the product approval for the importers. All application forms submitted to KFDA and testing laboratories must be in Korean.

There are three main requirements to get a medical device registered in South Korea; a device business license, a product license and a certificate of Korean Good Manufacturing Practice (KGMP). There are also requirements for packaging, labeling and a vigilance system. Raw material specifications, information on applied standards and catalogs and/or brochures shall be submitted with the application.

All medical devices must meet Korean Good Manufacturing Practice (KGMP) according to the Medical Device Act. Foreign manufacturers can comply with good manufacturing requirements by following ISO 13485 or comply with the US quality requirements [88]. Type testing is required for medical devices class II, III and IV [85]. Good Laboratory Practice and Good Importing Practice must be met [85] [88].

Manufacturers of medical devices must apply risk management. According to Underwriters Laboratories Korea the Korean regulations concerning risk management are met in ISO 14971.

Manufacturers of medical devices need to have a product license to obtain a business license. Usually an importer already has a business license from importing other products. A business license does not expire.

Medical devices need to have a product license. Class I devices require a pre-market notification while class II, III and IV devices require a pre-market approval.

The pre-market notification involves the classification of the device, a Certificate of Free Sale and a submission of Form 5. This form shall be completed by the Korean importer and contain local importer information such as name, address, device business license number and local company representative's resident registration number. Foreign manufacturers' company name and manufacturing methods shall be described. The product information shall be trade name, product name and classification name of the device. Raw materials, dimensional drawings, specifications of finished product, instructions for use including precautions, packaging unit and labeling information are required.

The pre-market approval involves the classification of the device, a Certificate of Free Sale and a submission of Form 7 for technical review and Form 3 for certificate of product approval. A cover page and supporting documents shall be attached to the form. The procedure for pre-market approval is:

- Technical review. There are two types of technical files; a general technical file and a safety and effectiveness review technical file (SER). The SER technical file is for devices with new characteristics. The technical files shall contain company and importer information and product information such as product, model, classification of the device, structure, size, effectiveness and performance, purpose of use, instructions and purpose of use, storage conditions (including validity period), packaging units, labeling, manufacturing process, standards and test standards.
- Type testing. The tests are conducted by a local third party laboratory, for example KTL, to guarantee the safety and effectiveness of a device. The tests may be conducted in other counties in collaboration with a KFDA approved laboratory. If the product shall be tested in Korea the importation must be approved by KFDA.
- Obtaining product license. To obtain a product license the application Form 3 must be filed. A copy of approved technical file and of approved type test, a list of facilities and a Free Sale Certificate (issued by the government of country of manufacture) shall be submitted.
- Audit of Quality System. One of the last things before getting a registration approval is an audit of the KGMP conducted by a third party [85].

Manufacturers of medical devices must have a post surveillance and vigilance system. KFDA conducts post-market surveillance. The Medical Device Act describes the post-market surveillance activities. These activities include product tracking, adverse event reporting, reexamination and reevaluation [89].

Business and product licenses do not expire [85]. KGMP certificates are valid for three years [90].

More specific information is found in Annex 9.

4.10 Taiwan

4.10.1 General Information

The economy in Taiwan is increasing and the living standard is similar to Southern Europe [91]. The medical device market was in 2005 estimated to $900 million, which made the Taiwanese medical device market the 4th largest in Asia. The same year the imported devices represented 80% of the market [92]. Year 2007 the device market had increased to $1.5 billion [93].

Private hospitals tend to buy medical devices from local agents while public hospitals usually go through the Central Trust of China which is the government procurement agency [94].

4.10.2 Regulation

Medical devices are regulated by the Bureau of Pharmaceutical Affairs (BOPA) under the Department of Health (DOH). The mission of the Department of Health is to establish a healthy Taiwan, providing the public a healthy and safe lifestyle.

The Pharmaceutical Affairs Law sets the requirements for medical devices. In April 12 of 2006 a revised version of Guidelines for Registration of Medical Devices was made public [95]. In vitro diagnostic devices are regulated as medical devices.

All medical devices must obtain a pre-market registration from the BOPA before they can enter the Taiwanese market [96]. Manufacturers with different locations but the same company name must file separate applications [97].

4.10.3 Classification

The Taiwanese medical device classification system is based on risk category and follows the United States FDA 21 Code of Federal Regulations. Products are divided into Medical Devices and In Vitro Diagnostic Devices (IVD).

Medical devices are divided into class I, II and III depending on the intended use and the indications for use [96] [98]. IVDs for Hepatitis B, HIV (1/2), HTLV (1/2) and Anti-A and Anti-B blood tests are classified as medical devices and shall therefore follow the regulations for medical devices and the regulations for IVDs [96].

Medical devices classified according to the system above are at the same time given a seven digit code (regulation number) and a product code that consists of three letters [98].

4.10.4 Product Registration

The registration of a medical device is done through a local representative in Taiwan. A medical device must first be registered at DOH before an import license is granted. A registration approval takes about 90-120 days.

Class I devices require Quality System Documentation (QSD) registration with DOH and in some cases even a product registration (product license). Class II and III devices require both a QSD registration and a product registration and in some cases clinical trial reports are required for class III devices. The QSD requirements must be met before the product can be registered. Quality System Documentation and an application shall be sent to the Bureau of Pharmaceutical Affairs (BOPA). As part of the quality system a vigilance system must be applied. All medical devices need a product license, except devices class I that only need a registration in some cases.

Medical devices class I undergo a special registration process to make the registration faster and easier. The required documents for a class I product license are:

- Letter of Commitment

Application form in Chinese
- Medical devices certificate (for local) and medical devices sales certificate to the Bureau of Pharmaceutical Affairs.

In this case the DOH has the authority to check the GMP and other documentation if necessary.

Medical devices class II and III require a more specific registration process. The required documents for a class II and III product license are:

- A registration form
- A letter of authorization that authorizes the local representative to register the product. The letter shall be in original and be valid for a year from the date of issue and the information shall be in English and Chinese.
- A Certificate of Free Sale (Free Sale Certificate) issued by the competent authority in the country of origin. A Chinese translation shall be attached to the document.
- A manufacturer's authorization certificate (original copy) together with an Establishment Inspection Report from the country of origin approved by a TECRO representative. The document shall be valid for one year after the date of issue and a Chinese translation shall be attached to the document.
- Seven copies of a leaflet, catalogue or brochure specifying the product usage. The information in them shall be name, structure, specification usage and administration of the device and the name and address of the manufacturer. Eight copies are required for radioactive equipment.
- Two copies of the quality control record are required for all medical devices. This record shall include testing methods and results, documents and certificates verifying GMP.
- Product specifications with information on purpose of use, indication or effect, form, structure, dimension, raw materials/ingredients, quantity and performance of the device.
- A sample of the device shall be sent to (BOPA).
- Two copies of clinical trial reports
- Two copies of circuits and testing records of electric insulation and duration are required for electronic equipment.
- Two copies of instructions for operating security. These instructions are only required for electronic equipment.
- Two copies of operation records of automatic measurement adjustment are required for automatic temperature adjusting equipment.
- Two copies of radiation leakage testing records and certificates are required for radioactive equipment.
- Labels, instructions for use, operating manuals and dossiers must be in Chinese and there shall be three copies of each.
- Technical results

Labeling and packaging must be in Chinese and have the product name, license number and name and address of the manufacturer. The Chinese product name must be larger than the foreign product name. The packaging must have instructions translated to Chinese [99].

Medical devices are subject to post marketing surveillance (PMS) for three years after the product license is granted [97].

The product license is valid for five years. Application for extension of the validity period of a medical device permit shall be made within three months of the expiration date [96] [97] [99].

More specific information is found in Annex 10.

5. Discussion

Most countries have similar requirements for registration of medical devices and are striving to harmonize their requirements with the GHTF guidelines. A company can go far by following the requirements of the European Union, USA or GHTF.

The main requirements are usually a local representative, a Certificate of Free Sale from the country of origin, import license from the competent authority in the import country and registration of the company and the product. To accomplish this it is necessary to fulfill the essential principles, classify the product, apply Good Manufacturing Practice and risk management, follow the labeling requirements and establish a documented post market surveillance system. Technical documentation is also necessary and shall in most cases be submitted with the registration application. This is where the requirements differ.

The essential principles are mainly the same in most of the countries examined but there are some differences and therefore it is necessary to look at these requirements country by country. However, a manufacturer of a CE marked product where the European essential principles are fulfilled usually has an easier registration process than manufacturers of other products. This is the case in Australia.

Classification of medical devices differs slightly from country to country. The main difference is that some countries separate AIMDs from medical devices while others do not. In vitro diagnostic devices are always seen as a separate group and the classification of these products vary a lot. The classification systems for general medical devices are mainly the same, usually divided into three groups as in the USA or four groups as in the EU or according to the GHTF guidelines. Taiwan use the USA classification system while most of the other countries examined follow the European system although class I, IIa, IIb and III might be described as class I, II, III and IV. Brazil and Argentina who are members of Mercosur (South America's variant of the European Union) both follow the European classification rules but use the product classes I to IV instead. The Canadian and the South Korean class I to IV generally correspond to the European classes and Australia use the same classification terms as in the EU but with the difference that AIMDs are treated as class III devices and not as a separate group. India, Japan, Russia and Mexico have their own classification systems although medical devices in Japan are divided into class I to IV and medical devices in Mexico are divided into class I, II and III by catalogue.

International nomenclature as UMDNS and GMDN is used by many countries. Mercosur members use UMDNS codes while GMDN codes seem to be more common in other countries. Among the examined countries it is only Canada, Russia, South Korea and Taiwan that do not use these nomenclature systems and South Korea holds discussions on implementing the GMDN system.

Good manufacturing practice is required by all countries. An ISO 13485 certificate is in most countries the way to demonstrate compliance with the quality system requirements. Some countries, like Brazil, Argentina, South Korea, Russia and Japan require a manufacturer of a medical device to be GMP certified according to their specific system. In these cases an ISO 13485 certificate might be enough to demonstrate compliance with the quality requirements but it must be approved by the local certification body. In addition to the common quality requirements Japan has specific facility requirements and Russia and South Korea require type testing. GMP is in some countries not required for class I devices, so called low risk devices.

All certification bodies are not accepted in all countries. A company that plan to market its product in several countries might consider using a certification body that is approved in those countries.

The requirements on risk management for medical devices vary depending on the classification of the device. ISO 14971 is sometimes a requirement or as in most cases a recommendation.

Clinical trials are required for more high risk devices. The devices that require clinical trials are about the same in all countries. Special requirements can be that the clinical trials must include people of the nationality of the country of interest.

Labeling requirements are generally the same. The language shall be adjusted to the country where the product is sold. Instructions for use are not always necessary depending on the class of the device. Class I devices and sometimes class II devices (depending on the classification system) do not always require instructions for use if the device can be used safely without it.

A documented post market surveillance system is necessary for all medical devices. The main difference here is the responsibility of the sponsor and the manufacturer. The time for maintaining distribution records vary between two years and five years or the product's life time. In extraordinary cases the time is longer.

A company must be aware of the timeframes of the registration process in different countries. In Japan the time for registration can be up to two years while it in Brazil shall not be more than 90 days. A small and newly established company needs a fast income and might not be able to wait two years for it. At the same time Japan represents a huge market and demands new high tech products. If a company is interested of the Japanese market the registration process must begin as soon as possible so the device does not become "old" before it is marketed. A

product sold in Brazil can easily be registered and sold in Argentina. This kind of thinking and strategic planning saves time and money.

Conclusion

Most countries have similar requirements for registration of medical devices and are striving to harmonize with the GHTF guidelines.

Classification of medical devices is usually done in accordance with the EU system, FDA system, GHTF guidelines or by catalogue. The nomenclature is UMDNS codes or GMDN where GMDN seems to be the most common variant.

Main requirements are a local representative, a Certificate of Free Sale from the country of origin, import license from the competent authority in the import country and registration of the company and the product.

Quality management systems and risk management systems are in most countries required, except for medical devices class I. Certificates of ISO 13485 and ISO 14971 are required or recommended.

6. References

[1] World Health Organization, Sixtieth World Health Assembly, Provisional Agenda Item 12.19, 22 March 2007
[2] Peter Landvall, 2007, Medicintekniska produkter – Vägledning till CE-märkning, SIS Förlag AB, Stockholm
[3] European Commission, Directive 93/42/EEC, published 14/06/1993 and valid to 31/12/2008 at http://eur-lex.europa.eu
[4] U.S. Food and Drug Administration, Overview of Device Regulations, updated 11/10/2007 at www.fda.gov/cdrh/devadvice/overview.html
[5] ECRI Institute, Universal Medical Device Nomenclature System, http://www.ecri.org/Products/Pages/UMDNS.aspx, printed 10/04/2008
[6] GMDN Maintenance Agency at http://www.gmdnagency.com, printed 10/04/2008
[7] Medical Products Agency, Global Medical Device Nomenclature, http://www.lakemedelsverket.se/Tpl/NormalPage____552.aspx, updated 09/01/2006
[8] U.S Food and Drug Administration, Brockton Hefflin and Larry Kessler ,The Global Medical Device Nomenclature, http://www.ncvhs.hhs.gov/030819p2.pdf, printed 10/04/2008
[9] Karolinska Institutet, http://courses.ki.se/fristaende_kurser/allmanna_kurser/B7V018/mermaterial/inlasningsmaterial#block_75, 11/04/2008
[10] Global Harmonization Task Force, http://www.ghtf.org, 11/4/2008
[11] U.S. Food and Drug Administration, Standards Program, http://www.fda.gov/cdrh/stdsprog.html, updated 20 December 2007
[12] Läkemedelsverket, Introduktion till regelverket, http://www.lakemedelsverket.se/Tpl/NormalPage____489.aspx, updated 2006-01-05

Argentina
[13] Epsicom Business Intelligence, The Medical Device Market: Argentina, published 30/11/2007, printed 17/12/2007
[14] International Trade Administration, Medical Device Regulatory Requirements for Argentina, published 2006 at http://www.ita.doc.gov/td/health/Argentina%20Profile%202006.pdf
[15] European Commission, The EU's Relations with Mercosur, updated November 2005 at http://ec.europa.eu/external_relations/mercosur/intro/index.htm
[16] Mercosur, http://www.mercosur.int/msweb/portal%20intermediario/es/index.htm, printed 17/12/2007
[17] Admnistración Nacional de Medicamentos, Alimentos y Tecnología Médica (ANMAT), Disposition 2318/2002, published 01/03/2004
[18] ANMAT, Agustin M. Iglesias Diez, Registro de Productos Medicos, Demostracion de Seguridad y Eficacia, printed 17/12/2007
[19] ANMAT, Sistema de Tecnovigilancia, http://www.anmat.gov.ar/farmaco/tecnovigilancia.asp, 2008-04-08

Australia
[20] Espicom Business Intelligence, The Medical Device Market: Australia, published May 2001, printed 28/11/2007
[21] Medical Industry Association of Australia, http://www.innovationaustralia.net/article/article.php?article=5,103, printed 28/11/2007
[22] TGA, Regulation of Therapeutic Goods in Australia, 08/04/2005, web page last updated 23/07/2007, printed 28/11/2007, http://www.tga.gov.au/docs/html/tga/tgainfo.htm
[23] TGA, Australian Medical Devices Guidelines, An overview of the New Medical Devices Regulatory System, Guidance Document Number 1, Version 1.6, published 23/05/2003, printed 26/11/2007
[24] TGA, What Was the Medical Device Transition?, http://www.tga.gov.au/devices/transitionmd.htm, printed 28/11/2007
[25] TGA, Australian Medical Devices Guidelines, Obligations and Responsibilities of Medical Device Sponsors and Manufacturers, Guidance Document Number 20, Version 1.6, published 2003, printed 26/11/2007
[26] TGA, Proposed Regulatory Framework for IVDs, December 2005, printed 29/11/2009
[27] TGA, The Use of GMDN codes according to the Australian Regulatory System, Fact sheet no. 18, October 2006, printed 26/11/2007
[28] TGA, Overview of the Therapeutic Goods Administration (TGA) Medical Device Regulatory Process, March 2006, printed 26/11/2007
[29] TGA, Australian Medical Devices Guidance Document Number 22, The Essential Principles for Medical Devices, published 03/11/2003, printed 26/11/2007
[30] TGA, Australian Medical Devices Guidelines, Postmarket Activities, Guidance Document Number 11, Version 1.7, published 2003, printed 26/11/2007
[31] TGA, Standard Orders, Fact sheet no. 24, 23 October 2006, web page last updated 12/03/2007, printed 26/11/2007
[32] TGA, Australian Medical Devices Guidelines, Conformity Assessment Procedures, Guidance Document Number 3, Version 1.5, published 2003, printed 26/11/2007
[33] Health Industries, Medical Device Regulatory Requirements for Australia, updated 25/09/2002, printed 07/11/2007
[34] TGA, How to Apply for a Conformity Assessment Certificate and/or an EC Certificate of Conformity under the EU-Australia MRA, published July 2007, printed 26/11/2007
[35] Therapeutic Goods Act 1989, Act No. 21 of 1990, prepared on 03/10/2007

Brazil
[36] Espicom, https://www.espicom.com/prodcat.nsf/Product_ID_Lookup/00000931?OpenDocument, printed 08/01/2008
[37] UK Trade & Investment, How to Register Life Sciences Products in Brazil, published November 2007
[38] BrazilTradeNet, www.braziltradenet.gov.br, 08/01/2008
[39] ANVISA, http://www.anvisa.gov.br/eng/index.htm, 08/01/2008

[40] International Trade Administration, Medical Device Regulatory Requirements for Brazil, published 21/03/2002 at http://www.ita.doc.gov/td/health/brazilregs.pdf
[41] ANVISA, Registro de Produtos para Diagnóstico de Uso in Vitro, http://www.anvisa.gov.br/produtosaude/reg/index_invitro.htm, 14/01/2008
[42] ANVISA, Resolucíao RDC Nº. 185, 20/10/2001, published 06/11/2001
[43] Underwriters Laboratories Inc, http://www.proapplication.com/index.php?m=service_medical_ul, 2008-01-14
[44] ANVISA, Análise do Risco de Produtos Implantáveis Aspectos Legais e Técnicos, 16/01/2008
[45] ANVISA, Análise e Decisão de Petições de Tecnologia de Equipamentos Médicos, published 29/08/2007, printed 16/01/2008, www.anvisa.gov.br
[46] ANVISA, Francielli Melo, Estudos Nao Clinicos e Clinicos, printed 16/01/2008

Canada
[47] Invest in Canada, Canada's Medical Devices Industry is Profitable and Innovative, printed 15/11/2007, web: http://www.investincanada.com/director.aspx?tabid=935
[48] Canadian Medical Devices Industry, 3.0 Medical Device Regulatory Framework, created 13/06/2005, updated 09/01/2007, printed 15/11/2007
[49] Canadian Medical Devices Industry, Chapter 2: Canadian Requirements – An overview of the Quality System Requirements for the Sale of Medical Devices in Canada, printed 15/11/2007
[50] Health Industries, Medical Device Regulatory Requirements for Canada, updated March 2006
[51] Medical Devices Bureau of Health Canada, Guidance on How to Complete the Application for a New Medical Device Licence, Document number: GD013/Rev00-MDB, Date prepared: 06/01/1999, Printed 03/02/2003, printed 15/11/2007
[52] Department of Justice Canada, Medical Devices Regulations (SOR/98-282), 07/05/1998, regulation current to 23/10/2007, printed 15/11/2007
[53] Medical Devices Bureau of Health Canada, Preparation of a Premarket Review Document for Class III and Class IV Device Licence Applications, Document number: GD008/Rev00-MDB, Date prepared: 23/10/1998, Printed 04/09/2003, printed 15/11/2007
[54] Health Canada, Health Products and Food Branch Inspectorate, Guidance on Medical Device Establishment Licensing, date issued: 17/11/2005, printed 15/11/2007

India
[55] Espicom, The Medical Device Market: India, published 28/02/2007, printed 25/02/2008, www.espicom.com/Prodcat.nsf/Search/00000553?OpenDocument
[56] Pacific Bridge Medical, Update on India's Medical Device Markets Webcast, published February 2007
[57] Piribo, Medical Devices & Equipment in India, January 2007 www.piribo.com/publications/medical_devices/medical_devices_equipments_india.html, printed 25/02/2008

[58] International Trade Administration, Medical Device Regulatory Requirements for India, updated 20/12/2005, published at www.ita.doc.gov/td/health/indiaregs.html
[59] Cental Drugs Standard Control Organization, Import of Drugs for Marketing in India, published 24/08/2001 at http://cdsco.nic.in/html/importdrugs.htm, printed 25/02/2008
[60] Central Drugs Standard Control Organization, Guidelines for Import and Manufacture of Medical Devices, published 06/10/2005, printed 25/02/2008
[61] Department of Science & Technology, Draft Bill, published 2006 at http://dst.gov.in/whats_new/whats_new07/MDRA-Act.pdf, printed 28/02/2008
[62] Asian Harmonization Working Party, The Report of the 12th Meeting of the Asian Harmonization Working Party, published 30/11/2007 at http://www.asiahwp.org/?page=article&id=253
[63] Central Drugs Standard Control Organization, Clarification on Guidelines for Import and Manufacture of Medical Devices, http://cdsco.nic.in/html/downloads.htm, 25/02/2008
[64] Central Drugs Standard Control Organization, Drugs and Cosmetic Act 1940, amended to 30/05/2005 at http://cdsco.nic.in/html/downloads.htm

Japan
[65] Pacific Bridge Medical, Global Perspective: The Regulatory Environment for Medical Devices in Japan, published by the Regulatory Affairs Professionals Society May 2002, printed 06/12/2007
[66] Pacific Bridge Medical, The New Market Authorization Holder (MAH) System for Medical Devices in Japan, published by AdvaMed June 2005, printed 06/12/2007
[67] JETRO, Investing in Japan, Regional Information, Pharmaceuticals and Healthcare, www.jetro.go.jp/en/invest/region/medical/, printed 10/12/2007
[68] TUV SUD Japan, Yasushi Murayama, The Regulatory System and Requirements in Japan for Medical Devices, The New Pharmaceutical Affairs Law, published 11/12/2006
[69] Pharmaceuticals and Medical Devices Agency (Japan), Kazuya Matsuura, Hirofumi Ueda, The Revised Japanese Legislation for Medical Devices – PAL, Stockholm 24/4/2006, course held by Synergus
[70] Medical Device & Diagnostic Industry, Do We Need Medical Device Risk Management Certification?, published November 2003, http://www.devicelink.com/mddi/archive/03/11/001.html
[71] MHLW Ordinance “PAL Enforcement Regulation”, Article 253 and 254

Mexico
[72] Espicom, The Medical Device Market: Mexico, published 30/06/2007 at https://www.espicom.com/Prodcat.nsf/Search/00000565?OpenDocument
[73] International Trade Administration, Medical Device Regulatory Requirements for Mexico, updated 29/03/2002, www.ita.doc.gov/td/health/mexicoregs.html
[74] Swedish Trade Council Mexico, Medical Devices Registration, February 2007, www.swedishtrade.se/mexico
[75] Global Harmonization Task Force, Medical Devices Regulation in Mexico, May 2002

[76] Multidisciplinary Assessment of Technology Center for Healthcare, Deliverable 2, An Overview of Current Classification Systems for Healthcare Devices and their Limitations, May 2005
[77] Secretaría de Salud, Diario Oficial de la Federación, PROY-NOM-240-SSA1-2005, published 2005

Russia

[78] Espicom, The Medical device market: Russia, Challenges and Opportunities, published 30/06/2007 at https://www.espicom.com/Prodcat.nsf/Search/00000577?OpenDocument
[79] Ludmila Maksimova, U.S. & Foreign Commerce Service Moscow, A Report on the Medical Equipment Market in Russia, printed 18/02/2008 http://commercecan.ic.gc.ca/scdt/bizmap/interface2.nsf/vDownload/ISA_0460/$file/X_8022011.DOC
[80] Pharmabitz, Import Registration and Taxation for Medical Equipments in Russia, published 24/06/2004 at www.pharmabitz.com/article/detnews.asp?articleid=22508&sectionid=50
[81] International Trade Administration, Medical Device Regulatory Requirements for Russia, Registering Medical Equipment in Russia, published March 2006, printed 18/02/2008
[82] TUV Rheinland, International Approvals for Medicinal Products, printed 20/02/2008 from http://www.tuv.com/de/en/international_approvals_for_medical_products.html
[83] Technomedica, Russia: Medical Equipment Market Overview, published 2002, printed 18/02/2008 from www.technomedica.com/TM-on-Russian-market.htm

South Korea

[84] World Health Organization, Regional Office for the Western Pacific, Korea, printed 30/01/2008 from www.wpro.who.int/countries/kor
[85] International Trade Administration, Medical Device Regulatory Requirements for Korea, printed 30/01/2008
[86] Underwriters Laboratories, Market Access Solutions – South Korea, The Electric Appliance Safety Control Act, printed 28/01/2008 from www.ul.com/international/korea.html
[87] Asian Harmonization Working Party, Report of the 10th Meeting of the Asian Harmonization Working Party, Genting Highlands, Malaysia, 24-25 November 2005
[88] Pharmacia, U.S. Device Makers Seek Exemptions from Korean Device-Testing Rules, printed 30/01/2008 from http://fdcalerts.typepad.com/asia/2007/07/us-device-maker.html
[89] Asian Harmonization Working Party, Post-Market Surveillance and Vigilance, printed 30/01/2008 from http://asiahwp.org/upload/id238/WG02_Post-market%20Surveillance%20%20and%20Vigilance.pdf
[90] Pacific Bridge Medical, Medical Device Registration in Korea: An Overview, published January 2008 at www.pacificbridgemedical.com/publications/html/KoreaJan07DevReg.htm

Taiwan
[91] Pharmaceutical Industry Technology Development Center, Taiwan Pharmacentical Overview, published 08/11/2007, printed 11/02/2008 from www.pitdc.org.tw/econtent/taiwan.asp
[92] Pacific Bridge Medical, Taiwan: An Update on the Medical Device Product Registration, published January 2005, printed 11/02/2008 from http://www.pacificbridgemedical.com/publications_Taiwan2.html
[93] Pacific Bridge Medical, Update on Taiwan's Medical Device Markets, published 13/06/2007 at http://www.pacificbridgemedical.com/Webcasts/Done/6_2007.htm
[94] Frost & Sullivan, Taiwan's Leap In Medical Device Manufacturing, published 23/01/2006 at http://www.frost.com/prod/servlet/market-insight-top.pag?docid=58911433
[95] Department of Health Taiwan (DOH), About DOH, printed 11/02/2008 from http://www.doh.gov.tw/EN2006/index_EN.aspx#
[96] International Trade Administration, Medical Device Regulatory Requirements for Taiwan, printed 13/02/2008 from http://www.ita.doc.gov/td/health/Medical%20Device%20Regulatory%20Profile%20Update%20for%20Taiwan%20090806.pdf
[97] Pacific Bridge Medical, Taiwan Medical Device Regulation Update, published 2004, printed 13/02/2008 from www.pacificmedical.com
[98] U.S. Food and Drug Administration, Device Advice, Classify Your Medical Device, printed 20/04/2008 from http://www.fda.gov/cdrh/devadvice/313.html
[99] Department of Health Taiwan (DOH), Guidelines for Registration of Medical Devices, revised 12/04/2006, http://www.doh.gov.tw/EN2006/index_EN.aspx#

7. Appendix

Annex 1 – The Registration Process in Argentina

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in Argentina for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 2 – The Registration Process in Australia

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in Australia for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 3 – The Registration Process in Brazil

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in Brazil for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 4 – The Registration Process in Canada

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in Canada for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 5 – The Registration Process in India

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in India for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 6 – The Registration Process in Japan

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in Japan for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 7 – The Registration Process in Mexico

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in Mexico for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 8 – The Registration Process in Russia

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in Russia for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 9 – The Registration Process in South Korea

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in South Korea for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.

Annex 10 – The Registration Process in Taiwan

This annex contains information that belongs to Synergus. The information can be withhold from the company if requested.

The annex describes the registration process in Taiwan for medical devices and contains following information:

- General Information on the Medical Device Market
- Law and Regulation
- Classification
- Nomenclature
- Quality Management Systems
- Risk Management
- Product Registration Process
- Labeling and Instructions for Use
- Post Marketing Surveillance

The information gives an understanding on how medical devices are classified, the regulatory requirements and the necessary documentation.