ΕΓΚΡΙΣΕΙΣ ΦΑΡΜΑΚΕΥΤΙΚΩΝ ΣΚΕΥΑΣΜΑΤΩΝ ΣΤΗΝ ΕΥΡΩΠΑΙΚΗ ΑΓΟΡΑ- ΦΑΚΕΛΟΙ ΔΡΑΣΤΙΚΩΝ ΟΥΣΙΩΝ

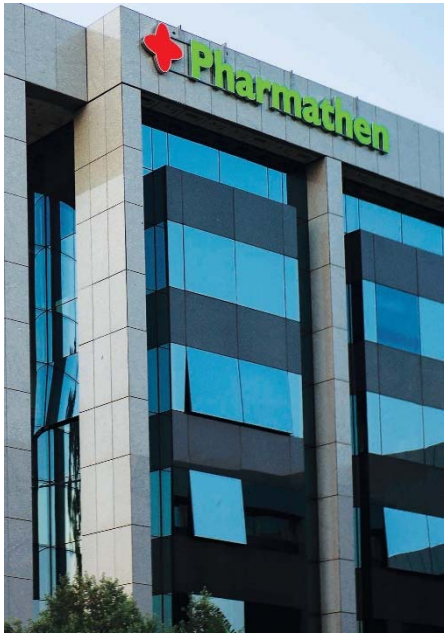
Μάρτιος 2017

Eleni Christodoulou, PhD
Regulatory Affairs Associate

Pharmathen
Innovation inspired by life

Overview

Pharmathen is a leading integrated pharmaceutical company, focused on developing, manufacturing and marketing generic, brand and specialty products.



Founded in 1969, the company has achieved significant milestones through an Immaculate performance history, always upholding the highest ethical and operational standards, with compliance to regulatory affairs.

Strongly dedicated to strategic planning and its vision, Pharmathen soon emerged as one of the largest independent generic development companies in Europe. With a pipeline of approximately ten generic molecules a year and vigorous export activities in over 80 countries, the company has reached export sales dynamics that amount to 70% of the group's total annual sales.

Pharmathen's core business is the development of complex generic products, advanced pharmaceutical technologies and platforms, out licensing of their marketing rights to multinationals and local pharmaceutical brands.

With 3 state of the art research laboratories in Greece and India, the company is committed to scientific excellence and continuous R&D investments, aiming to enhance its product portfolio, provide innovative solutions and services to customers and patients, whilst maintaining and securing a strong financial performance.

Pharmathen
Innovation inspired by life

Our Strategy: **The 3 I's**

Innovation

- 3 Research centers
- 180 Research scientists
- 60 International Patents
- Among the 50 largest research companies of the Healthcare section in the E.U.(42nd)
- Annual R&D investments exceeding € 20m annually

Integration

- 2008-2015 investment plan reached € 100m
- Two manufacturing plants
- Three research centers
- Integrated from API's to finished dosage forms
- Integrated from R&D to industrial production & commercial sales.

Internationalization

- 80 countries actively exporting
- Offices in Greece, UK, USA, Canada, Jordan, India, Australia
- Partner of choice for more than 200 top pharmaceutical companies worldwide
- 6.230 MAs registered globally
- 170 partners globally
- Broad product portfolio of 98 products

Pharmathen
Innovation inspired by life

Our values

Our success value model is based on the following fundamental principles:

Innovation

Change that unlocks new value!

Our continuous progress and growth depends on the investments we make on scientific research for new medicines and technologies.

Innovation is part of our DNA and a process involving multiple aspects of dynamic activities.

Quality

Intelligent efforts in everyday practice

Quality is the fundamental principle of all our activities.

We pay attention to detail and take decisions over the acknowledgement that our reputation depends on the empowerment of every individual to respond efficiently and act with care in service of our customers.

Performance

Passion for results

Our employees are the driving force of our success.

We embrace them with pride and trust and empower them to achieve operational excellence through knowledge sharing and continuous improvement.

Integrity

Transparency in all we do

Transparency and honesty are embedded in our DNA.

We are constantly committed to fostering a culture where integrity is woven into the fabric of everything we do.

Leadership

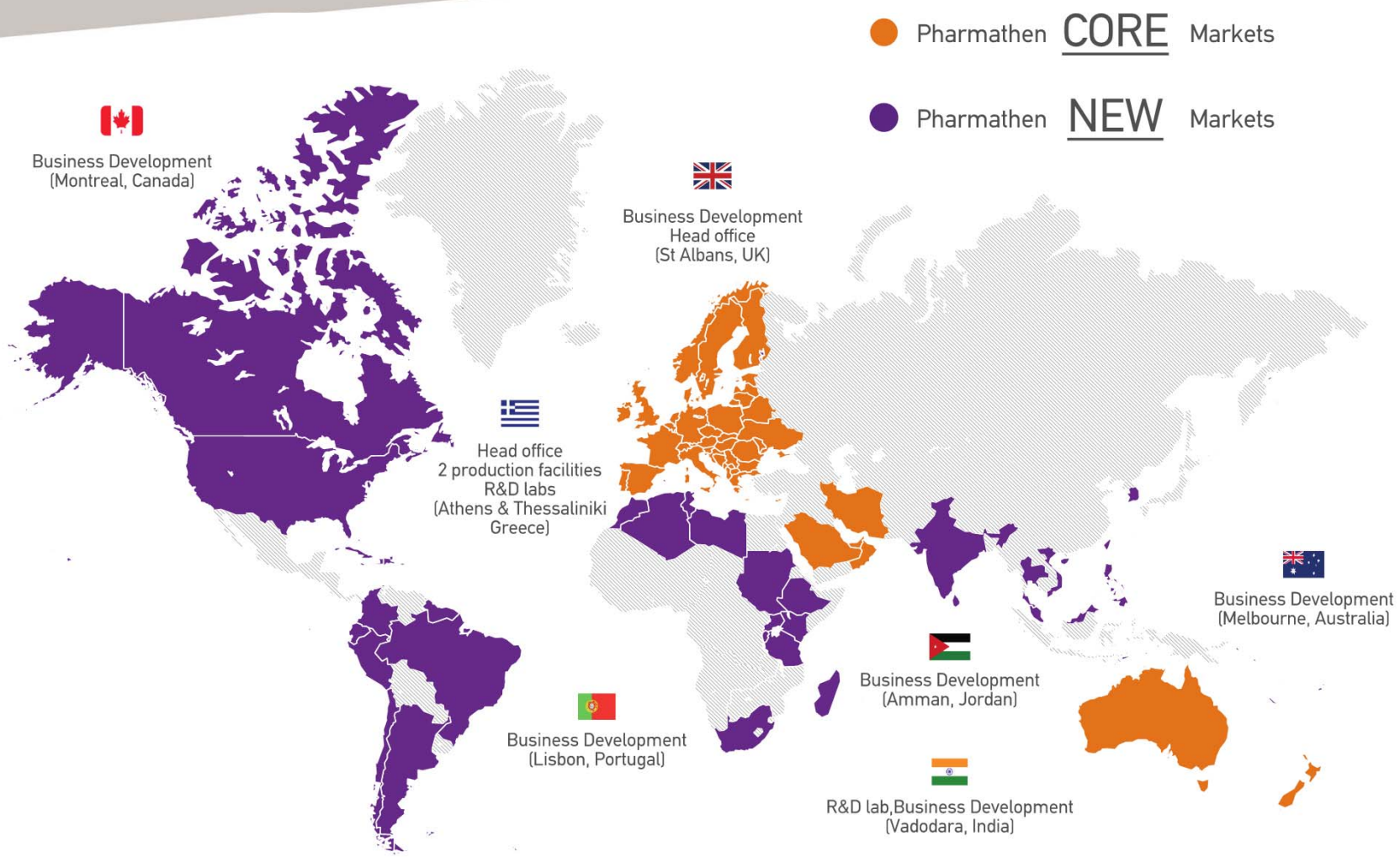
We walk our talk

We promote a positive working environment, applying visionary leadership style to influence and achieve excellent results.

Our leaders step outside the executive suit and do things that symbolize our shared vision.

Pharmathen
Innovation inspired by life

Global footprint & significant growth potential into the markets



Pharmathen
Innovation inspired by life

R&D facilities overview

R&D Formulations - Formulation Technologies

Athens, Greece

- State of the art, fully equipped R&D centre
- Focused on reformulated branded products, innovative pharmaceutical products and drug delivery technologiesfor LCM

1.200m2
100 Scientists

- Activity initiated in 2006
- Recent € 3.5 million investment
- Develops products with non-infringing formulations by using new technologies and protects them through patents
- Focused on development of finished formulation & drug deliver technologies
- Offers advanced solutions to life cycle management strategies and/or product optimization

R&D Active Pharmaceutical Ingredients - BU Thessaloniki

Thessaloniki, Greece

- First-ever API R&D investment in Greece
- Activity initiated in 2006
- Quality commitment: ISO9001/14001
- Fully equipped OS, AD and Kilo laboratories
- Design and develop sustainable processes
- Plan, manage and support API commercialization

700m2
33 Scientists

- Design and evolution of innovative, non infringing, sustainable processes
- Analytical method development and validation
- Genotoxic evaluation and control of impurities
- Cost estimation and projection
- Quality Assurance based on cGMP requirements through all stages of development and production
- Regulatory support (DMF drafting, filing, update)
- IP asset generation and management
- Risk management and mitigation

R&D Active Pharmaceutical Ingredients - BU Vadodara

Vadodara, India

- Activity initiated in 2010
- Quality commitment: ISO9001/14001
- Fully equipped Organic Synthesis, Analytical
- Development and Kilo laboratories
- Develop, validate and scale-up non-infringing processes
- Oversee and support commercial API production

930m2
30 Scientists

- Development, optimization and scale-up of non-infringing, cost-effective processes
- Dedicated tech-transfer OS team with continuous AD, IP, QA and RA support
- Analytical method development & validation
- Quality Control of all process stages (from raw material to final API)
- Control of Cost in all process stages QA/RA support to DMF-related activities
- IP generation and compliance

Pharmathen
Innovation inspired by life

Capacities of Pallini & Sapes BU

Total production capacity of over 3.8bn tablets - 2.2bn capsules - 2.5m ampoules for injection.

Over 20.400m^2 of manufacturing space 5.440m^2 of warehousing space.

State of the art manufacturing facilities – GMP approved by national and foreign authorities

(Saudi Arabia, ANVISA, Taiwan, Iraq, Jordan, United Arab Emirates, etc.)

PALLINI SITE

- 3.600m^2 Pallini Plant
- 2.000m^2 Aspropirgos warehouse
- Manufactures solid dosage forms and parenteral dosage forms
- GMP
- Production capacity:
- 800m tablets
- 200m capsules
- 4m amp trials for injections

SAPES SITE

- 17,000m^2
- New state of the art facility launched in 2010 total capex of € 42 million
- Production capacity:
- 3bn tablets
- 2bn capsules

CERTIFICATIONS

Regulatory Authorities Audits:

EOF/ EMA/ PIC (2010/2012)

SFDA (2010)

ANVISA (2013)

IS0 9001/14001

Pharmathen
Innovation inspired by life

ΑΔΕΙΟΤΗΣΗ ΦΑΡΜΑΚΕΥΤΙΚΩΝ ΣΚΕΥΑΣΜΑΤΩΝ ΣΤΗΝ ΕΥΡΩΠΗ

ΠΡΟΪΟΝ
- ΤΑΜΠΛΕΤΕΣ- ΣΥΣΤΑΣΗ
- ΕΝΕΣΙΜΟ
- ΠΟΣΙΜΟ ΔΙΑΛΥΜΑ

ΠΕΛΑΤΕΣ
- Η ΙΔΙΑ Η ΦΑΡΜΑΘΕΝ
- ΑΛΛΗ ΠΟΛΥΕΘΝΙΚΗ
- ΤΟΠΙΚΕΣ ΦΑΡΜΑΚΕΥΤΙΚΕΣ ΕΤΑΙΡΙΕΣ

ΑΓΟΡΑ
- ΟΛΗ Η ΕΥΡΩΠΗ
- ΑΡΚΕΤΑ ΕΥΡΩΠΑΪΚΑ ΚΡΑΤΗ
- ΜΕΜΟΝΩΜΕΝΑ ΚΡΑΤΗ

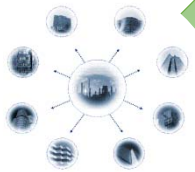
ΕΓΚΡΙΣΕΙΣ
- ΡΟΛΟΣ ΤΟΥ **REGULATORY DEPARTMENT**

Pharmathen
Innovation inspired by life

REGULATORY DEPARTMENT

Pharmathen
Innovation inspired by life

ΡΟΛΟΣ ΤΟΥ ΡΥΘΜΙΣΤΙΚΟΥ ΤΜΗΜΑΤΟΣ ΠΡΙΝ ΤΗΝ ΕΓΚΡΙΣΗ



ΕΠΙΚΟΙΝΩΝΙΑ ΜΕ ΤΙΣ ΑΡΧΕΣ
(ΕΥΡΩΠΑΙΚΟΣ ΚΕΝΤΡΙΚΟΣ ΦΟΡΕΑΣ- ΤΟΠΙΚΟΙ ΕΟΦ)

- ΚΑΤΟΧΥΡΩΣΗ ΑΡΙΘΜΩΝ ΔΙΑΔΙΚΑΣΙΩΝ
- ΦΟΡΟΙ
- ΗΜΕΡΟΜΗΝΙΕΣ ΚΑΤΑΘΕΣΕΩΝ

ΣΥΝΘΕΣΗ ΦΑΚΕΛΟΥ

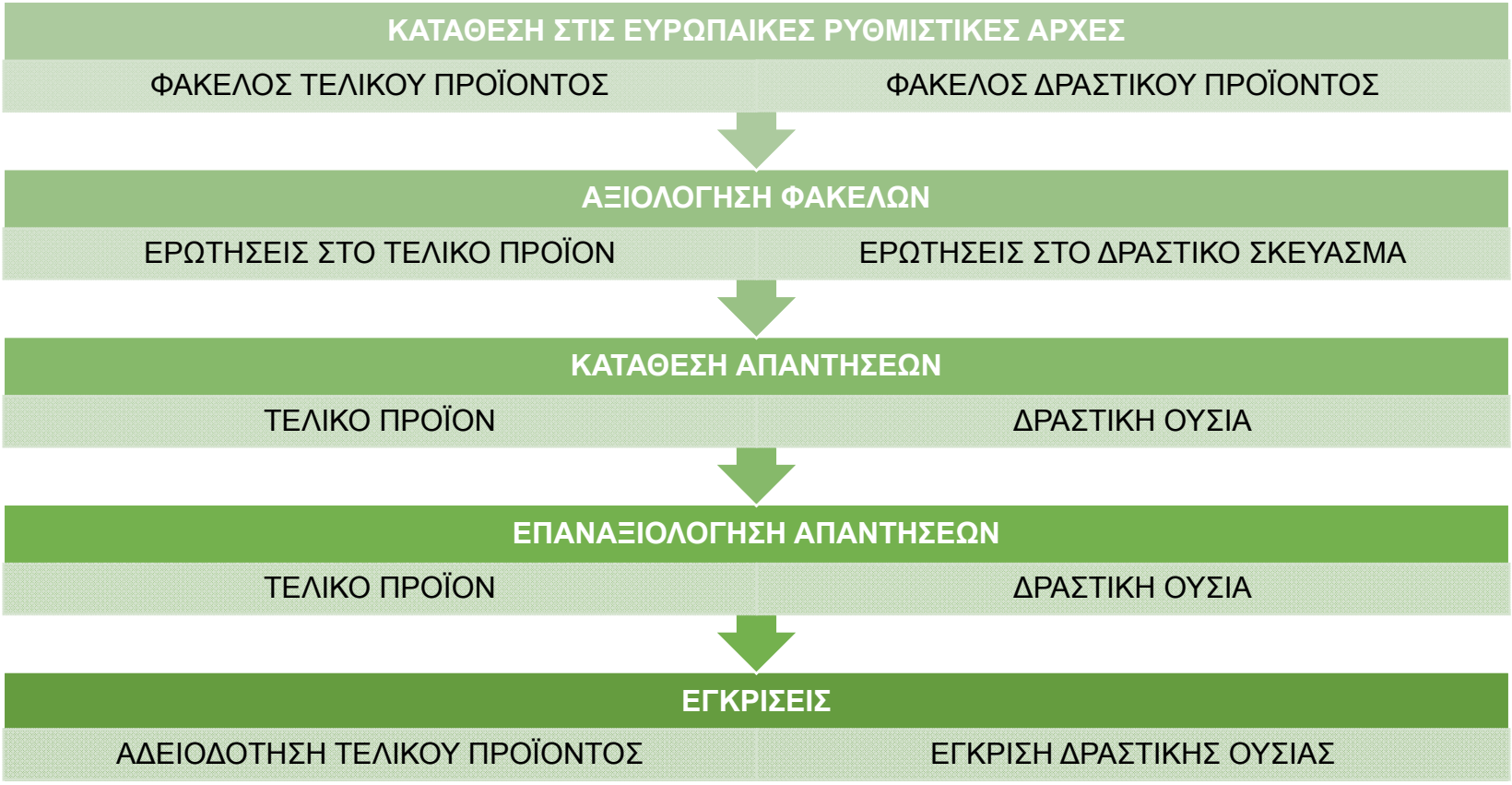
- ΠΛΗΡΟΦΟΡΙΕΣ ΔΡΑΣΤΙΚΟΥ ΣΥΣΤΑΤΙΚΟΥ (**ACTIVE PHARMACEUTICAL INGREDIENT**)
- ΕΚΔΟΧΑ
- ΑΝΑΠΤΥΞΗ ΦΟΡΜΑΣ ΤΕΛΙΚΟΥ ΠΡΟΙΟΝΤΟΣ
- ΜΕΛΕΤΕΣ ΒΙΟΙΣΟΔΥΝΑΜΙΑΣ
- ΚΛΙΝΙΚΕΣ ΜΕΛΕΤΕΣ

ΕΠΙΚΟΙΝΩΝΙΑ ΜΕ ΤΟΝ ΠΕΛΑΤΗ

- ΠΡΟΩΘΗΣΗ ΔΙΕΥΚΡΙΝΙΣΕΩΝ ΣΤΟΝ ΦΑΚΕΛΟ
- ΠΡΟΤΑΣΕΙΣ ΣΧΕΤΙΚΑ ΜΕ ΤΟΝ ΤΡΟΠΟ ΚΑΤΑΘΕΣΗΣ- ΕΓΚΡΙΣΗΣ
- ΕΝΗΜΕΡΩΣΗ ΓΙΑ ΤΟ ΧΡΟΝΟΔΙΑΓΡΑΜΜΑ ΤΩΝ ΚΑΤΑΘΕΣΕΩΝ

Pharmathen
Innovation inspired by life

ΔΙΑΔΙΚΑΣΙΑ ΕΓΚΡΙΣΗΣ ΦΑΡΜΑΚΕΥΤΙΚΩΝ ΣΚΕΥΑΣΜΑΤΩΝ



Pharmathen
Innovation inspired by life

Ο ΡΟΛΟΣ ΤΟΥ ΧΗΜΙΚΟΥ ΣΤΗΝ ΑΔΕΙΟΔΟΤΗΣΗ ΤΩΝ ΦΑΡΜΑΚΕΥΤΙΚΩΝ ΣΚΕΥΑΣΜΑΤΩΝ

- ΒΑΘΙΑ ΚΑΤΑΝΟΗΣΗ ΚΙ ΕΡΜΗΝΕΙΑ ΤΩΝ ΡΥΘΜΙΣΤΙΚΩΝ/ ΚΑΝΟΝΙΣΤΙΚΩΝ ΕΥΡΩΠΑΙΚΩΝ ΟΔΗΓΙΩΝ (ΤΑΚΤΙΚΗ ΕΝΗΜΕΡΩΣΗ ΓΙΑ ΟΠΟΙΕΣΔΗΠΟΤΕ ΑΝΑΘΕΩΡΗΣΕΙΣ)
- ΟΡΘΗ ΕΦΑΡΜΟΓΗ ΤΩΝ ΣΧΕΤΙΚΩΝ ΕΥΡΩΠΑΙΚΩΝ ΟΔΗΓΙΩΝ
- ΓΝΩΣΗ ΤΩΝ ΚΑΝΟΝΩΝ ΟΡΘΗΣ ΠΑΡΑΓΩΓΙΚΗΣ ΔΙΑΔΙΚΑΣΙΑΣ ΦΑΡΜΑΚΩΝ (GMP)
- ΚΑΤΕΥΘΥΝΤΗΡΙΕΣ ΟΔΗΓΙΕΣ ΚΑΤΆ ΤΗΝ ΑΝΑΠΤΥΞΗ ΤΟΥ ΠΡΟΪΟΝΤΟΣ ΑΚΟΛΟΥΘΩΝΤΑΣ ΤΟΥΣ ΕΥΡΩΠΑΙΚΟΥΣ ΚΑΝΟΝΙΣΜΟΥΣ

Pharmathen
Innovation inspired by life

Ο ΡΟΛΟΣ ΤΟΥ ΧΗΜΙΚΟΥ ΣΤΗΝ ΑΔΕΙΟΔΟΤΗΣΗ ΤΩΝ ΦΑΡΜΑΚΕΥΤΙΚΩΝ ΣΚΕΥΑΣΜΑΤΩΝ

- ΑΞΙΟΛΟΓΗΣΗ ΤΩΝ ΓΕΝΟΤΟΞΙΚΩΝ ΜΕΛΕΤΩΝ ΚΑΙ ΠΛΑΝΟ ΑΝΑΛΥΣΕΩΝ ΩΣΤΕ ΝΑ ΕΞΑΣΦΑΛΙΖΕΤΑΙ Η ΣΥΜΜΟΡΦΩΣΗ ΤΟΥ ΠΡΟΪΟΝΤΟΣ ΜΕ ΤΙΣ ΚΑΝΟΝΙΣΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ
- ΣΤΡΑΤΗΓΙΚΟΣ ΣΧΕΔΙΑΣΜΟΣ ΤΟΥ ΦΑΚΕΛΟΥ, ΠΡΟΒΛΕΠΟΝΤΑΣ ΤΗ ΣΤΑΣΗ ΤΩΝ ΑΞΙΟΛΟΓΗΤΩΝ
- ΣΥΝΘΕΣΗ ΤΩΝ ΑΠΑΝΤΗΣΕΩΝ ΚΑΤΑ ΤΗΝ ΑΞΙΟΛΟΓΗΣΗ, ΜΕ ΣΤΟΧΟ ΤΗΝ ΑΜΕΣΗ ΕΓΚΡΙΣΗ ΤΟΥ ΠΡΟΪΟΝΤΟΣ
- ΜΟΡΦΟΠΟΙΗΣΗ ΤΟΥ ΦΑΚΕΛΟΥ ΣΥΜΦΩΝΑ ΜΕ ΤΟΥΣ ΑΠΟΔΕΚΤΟΥΣ ΤΡΟΠΟΥΣ ΚΑΤΑΘΕΣΕΩΝ ΣΤΙΣ ΕΥΡΩΠΑΪΚΕΣ ΑΡΧΕΣ

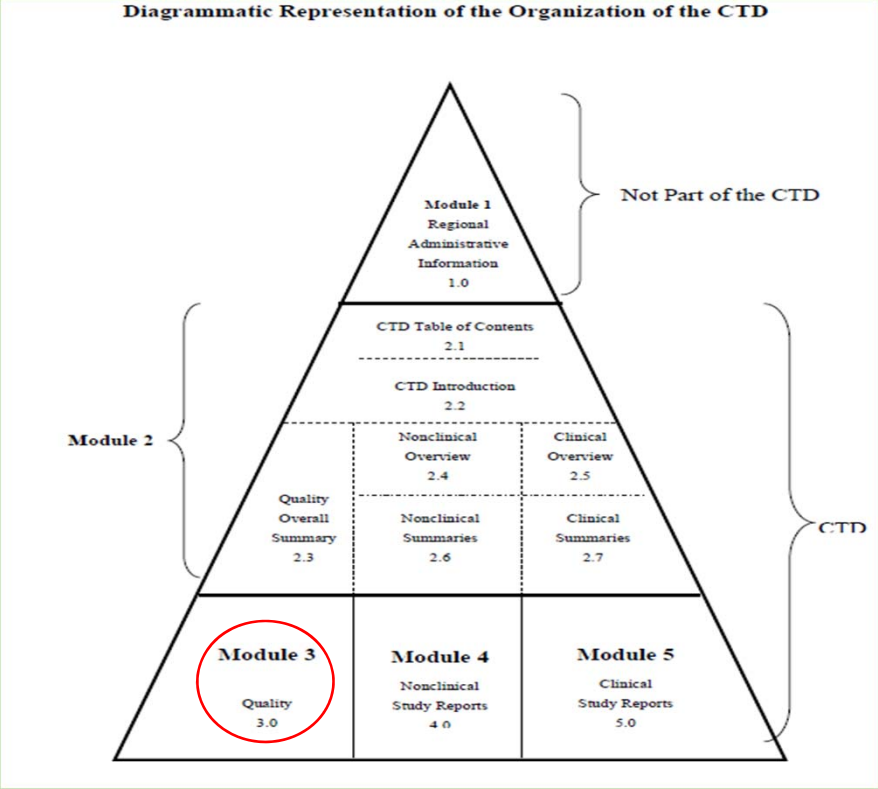
Pharmathen
Innovation inspired by life

ΜΟΡΦΗ ΤΟΥ ΦΑΚΕΛΟΥ ΣΕ ΔΙΑΤΑΞΗ CTD

EudraLex - Volume 2 - Pharmaceutical legislation on notice to applicants and regulatory guidelines for medicinal products for human use

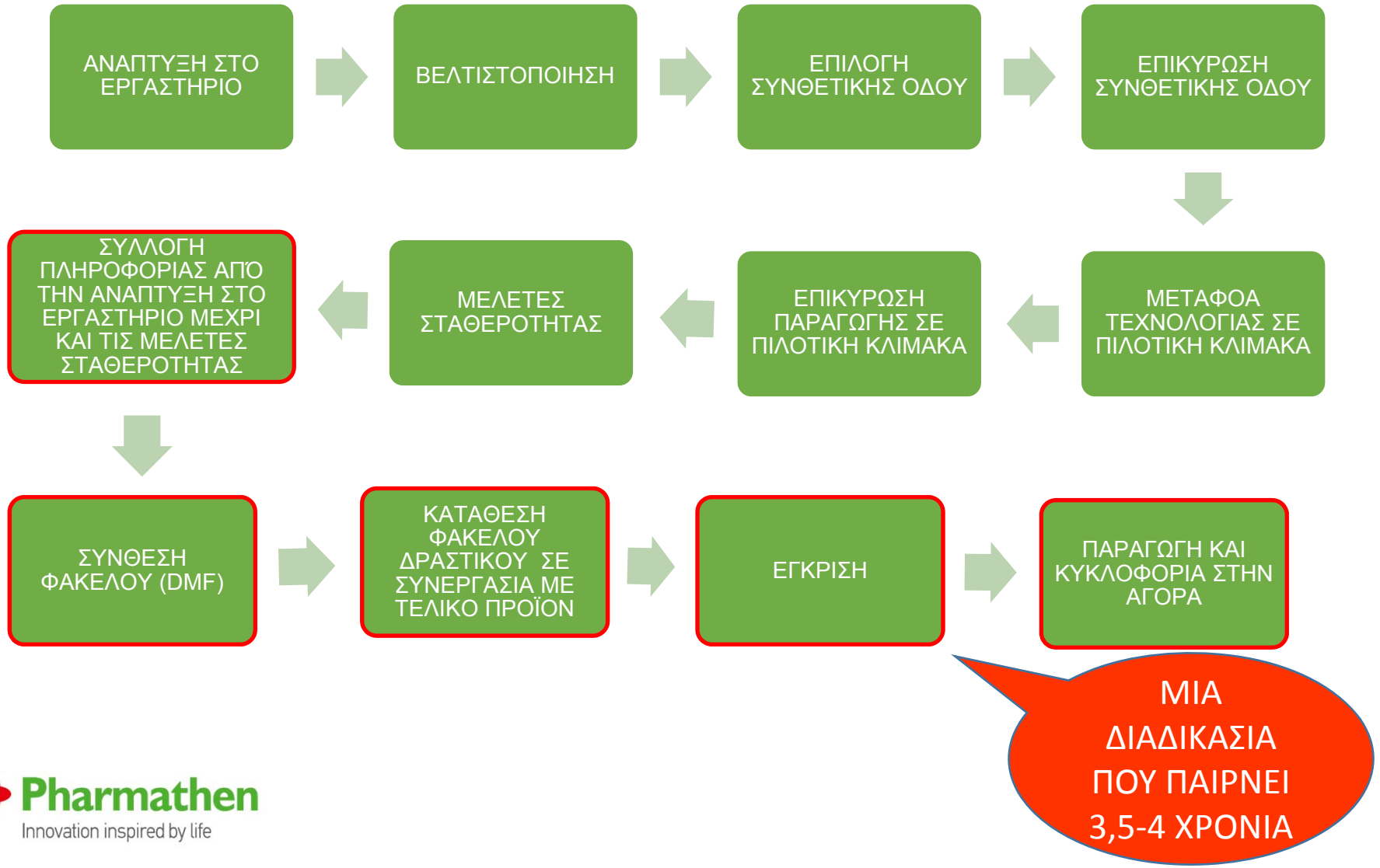
Volume 2B Notice to Applicants Medicinal products for human use

Common Technical Document (CTD)



Pharmathen
Innovation inspired by life

ΑΝΑΠΤΥΞΗ ΚΑΙ ΕΓΚΡΙΣΗ ΜΙΑΣ ΔΡΑΣΤΙΚΗΣ ΟΥΣΙΑΣ (API)



Pharmathen
Innovation inspired by life

ΒΑΣΙΚΑ ΣΤΑΔΙΑ ΤΗΣ ΑΝΑΠΤΥΞΗΣ API ΚΙ Η ΣΥΜΒΟΛΗ ΤΟΥ REGULATORY

- ΠΡΩΤΕΣ ΥΛΕΣ, **KEY STARTING MATERIALS** (KSM)
- ΚΟΙΝΑ ΑΝΤΙΔΡΑΣΤΗΡΙΑ, **RAW MATERIALS** (ΔΙΑΛΥΤΕΣ, ΜΕΤΑΛΛΑ, ΣΥΜΒΑΤΑ ΜΕ ΤΗ ΦΑΡΜΑΚΕΥΤΙΚΗ ΧΗΜΕΙΑ)
- ΠΑΡΑΠΡΟΙΟΝΤΑ ΤΗΣ ΣΥΝΘΕΣΗΣ (**IMPURITIES**) ΚΑΙ ΣΧΕΤΙΚΟΙ ΕΛΕΓΧΟΙ
- **ΓΕΝΟΤΟΞΙΚΑ IMPURITIES** (ΑΞΙΟΛΟΓΗΣΗ- ΕΛΕΓΧΟΙ)
- ΤΕΛΙΚΟΙ **ΕΛΕΓΧΟΙ** ΓΙΑ ΤΗΝ ΑΠΕΛΕΥΘΕΡΩΣΗ ΤΟΥ ΠΡΟΪΟΝΤΟΣ (API)
- **ΜΕΛΕΤΕΣ ΣΤΑΘΕΡΟΤΗΤΑΣ – ΧΡΟΝΟΣ ΖΩΗΣ API** (ΚΛΙΜΑΤΙΚΗ ΖΩΝΗ, ΕΠΙΛΟΓΗ ΕΛΕΓΧΩΝ)

Pharmathen
Innovation inspired by life

Η ΣΥΜΒΟΛΗ ΤΟΥ ΧΗΜΙΚΟΥ ΣΕ ΌΛΑ ΤΑ ΣΤΑΔΙΑ ΣΥΝΘΕΣΗΣ ΚΑΙ ΠΑΡΑΓΩΓΗΣ ΑΡΙ

Pharmathen
Innovation inspired by life

ΕΦΟΔΙΑ ΕΝΟΣ ΚΑΛΟΥ REGULATORY PERSON

- ΣΥΝΕΧΗΣ ΕΝΗΜΕΡΩΣΗ ΓΙΑ ΤΙΣ REGULATORY ΟΔΗΓΙΕΣ ΚΑΙ ΤΙΣ ΑΝΑΘΕΩΡΗΣΕΙΣ ΤΟΥΣ
- ΣΥΝΔΙΑΣΤΙΚΗ ΣΚΕΨΗ ΜΕ ΣΤΡΑΤΗΓΙΚΗ
- ΔΥΝΑΤΟΤΗΤΑ ΣΥΝΤΟΝΙΣΜΟΥ (ΠΟΙΟΤΗΤΑ/ ΚΟΣΤΟΣ ΠΑΡΑΓΩΓΗΣ, ΑΔΕΙΟΔΟΤΗΣΗ, ΙΚΑΝΟΠΟΙΗΣΗ ΠΕΛΑΤΩΝ)
- ΥΠΕΥΘΥΝΟΤΗΤΑ ΚΑΙ ΣΥΝΕΠΕΙΑ ΣΤΑ ΧΡΟΝΟΔΙΑΓΡΑΜΜΑΤΑ
- ΓΝΩΣΕΙΣ ΟΡΓΑΝΙΚΗΣ ΚΑΙ ΑΝΑΛΥΤΙΚΗΣ ΧΗΜΕΙΑΣ

Pharmathen
Innovation inspired by life

ΠΕΔΙΑ ΕΦΑΡΜΟΓΗΣ REGULATORY

REGULATORY SECTIONS

HUMAN	VETERINARY	COSMETICS

Pharmathen
Innovation inspired by life

Pharmathen
Innovation inspired by life

Pharmathen S.A., Headquarters
44, Kifissias Avenue
151 25 Marousi
Athens-Greece
T: +30 210 66 04 300
F: +30 210 66 66 749

www.pharmathen.com