Commercial FUS Manufacturers



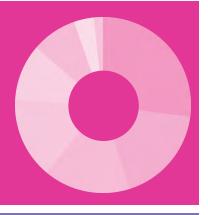
Overview

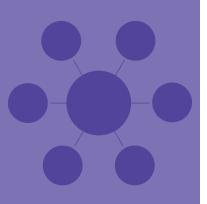
In the wake of exponential advancement, the industry has surpassed the inflection point, reflecting a shift in the mindset from "if" focused ultrasound will have a critical place in the therapeutic armamentarium to "when" it will be widely available as a mainstream standard of care.

Additionally, we are seeing increasing evidence that the field is transitioning from primarily a science-based research environment to commercialization with patient treatment spaces focused on marketing and sales. As this transition gains momentum, we want to keep pace with the data points and metrics needed to understand and evaluate this global commercialization, so that we may accurately analyze the information and disseminate our findings to all stakeholders. This chapter is a deep dive on the 16 companies that have commercial products available to treat 32 different indications. Information on companies that are still at the research and development stage can be found in Chapter 8 and/or on our website fusfoundation.org/for-industry.

A special thank you to all the industry partners in this space who, year after year, provide information on their companies so that we can collate the data in aggregate to better understand the field.

Approvals may have changed or been updated since publication. For the most up-to-date information please visit: fusfoundation.org/the-foundation/programs/regulatory-approvals-search.





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Photographs

X. 49 Approved Clinical Devices

Indication Approvals by Manufacturer

	North America	Europe	Asia	South America	Oceania	Africa
Manufacturer						
Acoustic MedSystems ¹	1	_	_	_	_	_
Alpinion Medical Systems	_	1	2	_	_	_
Changjiangyuan Technology Development	_	1	_	_	_	_
Chongqing Haifu Medical Technology	-	11	10	-	-	-
EDAP TMS	2	1	1	1	_	_
EpiSonica	-	-	1	-	-	-
EyeTechCare	-	1	1	_	_	_
Insightec	7	12	14	11	11	-
Profound Medical	4	6	5	3	3	_
Shanghai A&S Science Technology Development	-	1	5	_	_	_
Shende Medical Equipment Technology ³	-	1	_	_	_	_
Shenzhen PRO-HITU Medical Technology	-	1	4	_	_	_
Sonablate	2	2	2	2	2	1
Theraclion	-	3	4	-	_	_
TOOsonix ⁴	_	1	_	_	_	_
Wuxi Haiying Electronic Medical Systems	-	-	1	-	-	-

Summary of Global Approvals

39Regulatory agencies

337
Approvals worldwide

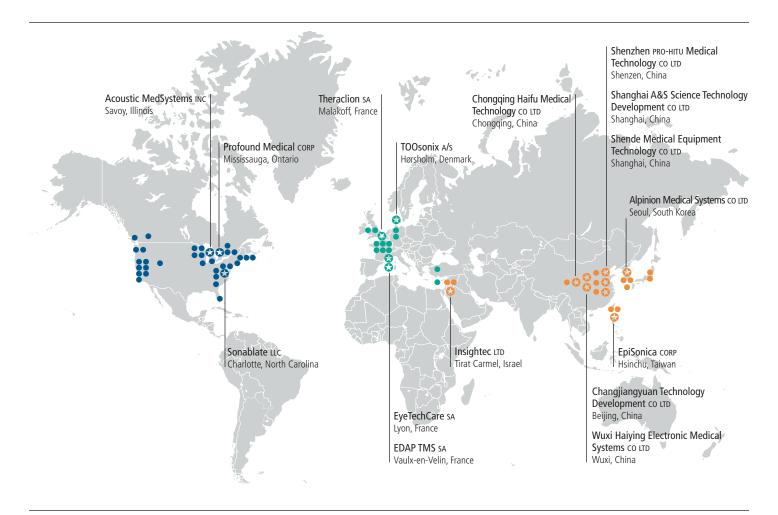
¹ Approval is for soft tissue ablation, excluding prostate.

² Approval is for tumor ablation.

³ Approved indication(s) unknown

⁴ Approval are for aesthetic indications, which are not tracked by the Foundation.

Clinical Device Manufacturers with Regulatory Approvals



- Clinical device manufacturers that have a device or devices with regulatory approvals by regional location.

 Company listings of devices, approved indications, and regulatory agencies granting approvals are found on the subsequent pages.
- Location of clinical device manufacturers without approved devices by region.

Regulatory Approvals for Companies by Region and Indication

■ North America

Acoustic MedSystems

Soft tissue ablation, excluding prostate

EDAP TMS

Benign prostatic hyperplasia Prostate cancer

Insightec

Benign prostatic hyperplasia Bone metastases Essential tremor Parkinson's disease, dvskinesia Parkinson's disease. Prostate cancer Uterine fibroids

Profound Medical

Benign prostatic hyperplasia Osteoid osteoma Prostate cancer Uterine fibroids

Sonablate

Benign prostatic hyperplasia Prostate cancer

Europe

Alpinion Medical Systems

Uterine fibroids

Changjiangyuan Technology Development

Tumor ablation

Chongqing Haifu Medical Technology

Breast tumors, malignant Kidney tumors Liver metastases Liver tumors Osteoid osteoma Pancreatic tumors Rhinitis Soft tissue cancer Soft tissue tumors, benign Uterine adenomyosis Uterine fibroids

EDAP TMS

Prostate cancer

EyeTechCare

Glaucoma

Insightec

Arthritis, facetogenic Bone cancer Bone metastases Bone tumors, benign Essential tremor Multiple myeloma Neuropathic pain Parkinson's disease, dyskinesia Parkinson's disease. tremor Prostate cancer Uterine adenomyosis

Uterine fibroids

Profound Medical

Bone metastases Desmoid tumors Osteoid osteoma Prostate cancer Uterine adenomyosis Uterine fibroids

Shanghai A&S

Uterine fibroids

Shende Medical Equipment Technology

Indication(s) unknown

Shenzhen **PRO-HITU Medical**

Uterine fibroids

Sonablate

Benign prostatic hyperplasia Prostate cancer

Theraclion

Breast tumors, benign Thyroid nodules Varicose veins

TOOsonix

Aesthetic indications

Asia

Alpinion Medical Systems

Uterine adenomyosis Uterine fibroids

Chongging Haifu Medical Technology

Soft tissue tumors, benign

Uterine fibroids

Prostate cancer

Soft tissue cancer

EyeTechCare

Arthritis, facetogenic

Bone tumors, benign

Glaucoma

Insightec

Bone cancer

Depression

Bone metastases

Essential tremor

Multiple myeloma

Neuropathic pain

disorder

tremoi

dyskinesia

Prostate cancer

Uterine fibroids

Obsessive-compulsive

Parkinson's disease.

Parkinson's disease,

Uterine adenomyosis

EDAP TMS

EpiSonica

Breast tumors, malignant Cervicitis Liver tumors Kidney tumors Soft tissue cancer Liver tumors Uterine fibroids Osteoid osteoma Shenzhen Pancreatic tumors

Rhinitis Soft tissue cancer

Lichen sclerosis Uterine adenomyosis

hyperplasia

Breast tumors, benign Breast tumors, malignant Thyroid nodules Varicose veins

Electronic Medical

South America

EDAP TMS

Insightec

Arthritis, facetogenic Bone cancer Bone metastases Bone tumors, benign Essential tremor Multiple myeloma Neuropathic pain

Profound Medical

Bone metastases Osteoid osteoma Prostate cancer Uterine adenomyosis Uterine fibroids

Shanghai A&S

Bone metastases Breast tumors, malignant

PRO-HITU Medical

Hyperplasia of the vulva Uterine fibroids

Sonablate

Benign prostatic Prostate cancer

Theraclion

Wuxi Haiying

Uterine fibroids

Prostate cancer

Parkinson's disease. tremor Prostate cancer

Uterine adenomyosis Uterine fibroids

Profound Medical

Bone metastases Uterine adenomyosis Uterine fibroids

Sonablate

Benign prostatic hyperplasia Prostate cancer

Oceania

Insightec

Arthritis, facetogenic Bone cancer Bone metastases Bone tumors, benign Essential tremor Multiple myeloma Neuropathic pain Parkinson's disease, tremor Prostate cancer Uterine adenomyosis Uterine fibroids

Profound Medical

Bone metastases Uterine adenomyosis Uterine fibroids

Sonablate

Benign prostatic hyperplasia Prostate cancer

Africa

Sonablate

Prostate cancer

Acoustic MedSystems INC

Devices						
2 Total devices	Approved device					
Name	Status	Treatment guidance	Planning guidance			
ACOUSTX		Ultrasound, CT-fluoroscopy, MRI and 3D targeting	_			
TheraVision	+	US guidance	_			

Approvals						
Approved indication	T Region	1 Country	Total approvals*			
Indication	Region	Country	Agency and date			
Soft tissue ablation, excluding prostate ¹	■ North America	United States	FDA, 2016			

Devices with regulatory approvals. Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

¹ Approval language does not further delineate tissue type.

Alpinion Medical Systems co LTD

Devices						
2 Total devices	Approved device					
Name	Status	Treatment guidance	Planning guidance			
Alpius 900	+	US guidance				
VIFU2000	_	US guidance	_			

Approvals						
2 Approved indications	2 Regions	2 Countries	Total approvals*			
Indication	Region	Country	Agency and date			
Women's health						
Uterine adenomyosis	Asia	South Korea	MFDS, 2018			
Uterine fibroids	■ Europe ■ Asia	Europe South Korea	CE Marking, 2016 MFDS, 2014			

Devices with regulatory approvals. Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

Clinical Device Manufacturers with Regulatory Approvals continued

Alpinion Medical Systems co LTD continued

Clinical research						
2 Indications	1 Region	Country	2 Sites			
Indication	Region	Country	Site			
Gastrointestinal						
Pancreatic tumors, malignant	1	1	1			
Women's health						
Uterine fibroids	1	1	1			

Changjiangyuan Technology Development co LTD

Devices			
2 Total devices	2 Approved devices		
Name	Status	Treatment guidance	Planning guidance
NUTAS - Non-invasive Ultrasound Tumor Ablation System	+	US guidance	US guidance
SUPER Knife-Focused Beam Therapy System	+	MR & US guidance	_

Approvals			
Approved indication	T Region	Country	Total approvals*
Indication	Region	Country	Agency and date
_			
Tumor ablation ¹	■ Europe	Europe	CE Marking, 2012
Tumor ablation ¹	■ Europe	Europe	CE Marking, 2018

Devices with regulatory approvals. Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

¹ Approval language does not specify tumor type.

Chongqing Haifu Medical Technology co LTD

Devices					
8 Total devices	4 Approved devices				
Name	Status	Treatment guidance	Planning guidance		
CZB	+	US guidance	_		
CZF	+	US guidance	_		
CZG300	_	US guidance	_		
JC	+	US guidance	_		
JC200	+	US guidance	_		
JC200D	_	US guidance	_		
JC300	_	US guidance	_		
LCA200	_	Unguided	_		

Approvals			
12 Approved indications	2 Regions	4 Countries	33 Total approvals*
Indication Gastrointestinal	Region	Country	Agency and date
Liver metastases	■ Europe	Europe	CE Marking, 2005
Liver tumors	EuropeAsiaAsia	Europe Russia China South Korea	CE Marking, 2005 Roszdravnadzor, 2011 NMPA, 1999 MFDS, 2014

Devices with regulatory approvals. Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

Chongqing Haifu Medical Technology co LTD continued

Approvals continued			
Indication	Region	Country	Agency and date
Gastrointestinal continue	d		
Pancreatic tumors	EuropeAsiaAsia	Europe Russia China South Korea	CE Marking, 2006 Roszdravnadzor, 2011 NMPA, 1999 MFDS, 2014
Musculoskeletal			
Osteoid osteoma	EuropeAsia	Europe Russia China	CE Marking, 2006 Roszdravnadzor, 2011 NMPA, 1999
Soft tissue cancer	EuropeAsia	Europe Russia China	CE Marking, 2006 Roszdravnadzor, 2011 NMPA, 1999
Soft tissue tumors, benign	EuropeAsia	Europe Russia China	CE Marking, 2006 Roszdravnadzor, 2011 NMPA, 1999
Pulmonary			
Rhinitis	EuropeAsia	Europe China	CE Marking, 2006 NMPA, 1999
Urological			
Kidney tumors	EuropeAsia	Europe Russia China	CE Marking, 2005 Roszdravnadzor, 2011 NMPA, 1999
Women's health			
Breast tumors, malignant	EuropeAsia	Europe Russia China	CE Marking, 2006 Roszdravnadzor, 2011 NMPA, 1999
Cervicitis	Asia	China	NMPA, 1999
Uterine adenomyosis	■ Europe ■ Europe	Europe Russia	CE Marking, 2006 Roszdravnadzor, 2011

Clinical Device Manufacturers with Regulatory Approvals continued

Chongqing Haifu Medical Technology co LTD continued

Approvals continued						
Indication	Region	Country	Agency and date			
Women's health continued						
Uterine fibroids	■ Europe	Europe	CE Marking, 2006			
	■ Europe	Russia	Roszdravnadzor, 2011			
	Asia	China	NMPA, 1999			
	Asia	South Korea	MFDS, 2014			

Clinical research			
17 Indications	2 Regions	7 Countries	17 Sites
Indication	Region	Country	Site
Gastrointestinal			
Liver tumors	1	3	4
Pancreatic tumors	1	1	1
Pancreatic tumors, malignant	1	4	5
Musculoskeletal			
Desmoid tumors	1	1	1
Osteoid osteoma	1	1	1
Sacral chordoma	1	1	1
Soft tissue cancer	1	1	2
Soft tissue tumors, benign	1	3	3
Neurological			
Neuropathic pain	1	1	1

Chongqing Haifu Medical Technology co LTD continued

Clinical research continued			
Indication	Region	Country	Site
Pulmonary			
Rhinitis	1	1	1
Urological			
Kidney tumors	1	2	2
Prostate cancer	1	1	1
Women's health			
Breast tumors, malignant	1	3	4
Cervical tumors	1	1	1
Retained placenta	1	1	1
Uterine adenomyosis	1	2	3
Uterine fibroids	2	4	7

Clinical Device Manufacturers with Regulatory Approvals continued

EDAP TMS SA

Devices			
3 Total devices	2 Approved devices		
Name	Status	Treatment guidance	Planning guidance
Ablatherm	+	Image fusion	US guidance
EDAP (Prototype)	_	US guidance	US guidance
Focal One	+	Image fusion	MR guidance, US guidance, biopsies

Approvals			
2 Approved indications	4 Regions	6 Countries	12 Total approvals*
Indication	Region	Country	Agency and date
Urological			
Benign prostatic hyperplasia	■ North America	United States	FDA, 2015
Prostate cancer	■ North America	Canada	Health Canada, 2003
	■ North America	United States	FDA, 2015
	■ Europe	Europe	CE Marking, 2013
	■ Europe	Russia	Roszdravnadzor, 2002
	Asia	South Korea	MFDS, 2002
	South America	Brazil	ANVISA, 2016

Devices with regulatory approvals.
Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

EDAP TMS sa continued

Clinical research			
3 Indications	2 Regions	6 Countries	28 Sites
Indication	Region	Country	Site
Urological			
Benign prostatic hyperplasia	1	1	1
Prostate cancer	2	6	26
Women's health			
Endometriosis	1	1	1

EDAP TMS designs, produces, and markets medical equipment dedicated to minimally invasive therapies based on robotic therapeutic ultrasound. Our lead product, Focal One®, combines the latest technologies in imaging and treatment modalities."

— EDAP TMS SA

EpiSonica corp

Devices				
Total device	Approved device			
Name	Status	Treatment guidance	Planning guidance	
ArcBLATE (ARC-100M)	+	MR	MR	

Approvals			
Approved indication	Region	1 Country	Total approvals*
Indication	Region	Country	Agency and date
Musculoskeletal			
Soft tissue cancer	Asia	Taiwan	FDA, 2016

EpiSonica Corp is a leading company that is focusing on development of a supine and prone MRgHIFU system. Our ArcBlate system provides treatment for uterine fibroids and uterine adenomyosis disease as well as the application of pain palliation for bone metastases."

[—] EpiSonica corp

Devices with regulatory approvals. Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

EyeTechCare sa

Devices				
Total device	Approved device			
Name	Status	Treatment guidance	Planning guidance	
EyeOP1	+	Unguided	_	

Approvals			
Approved indication	2 Regions	2 Countries	2 Total approvals*
Indication	Region	Country	Agency and date
Ophthalmological			
Glaucoma	■ Europe	Europe	CE Marking, 2011
	Asia	China	NMPA, 2017

Clinical research			
1 Indication	2 Regions	4. Countries	4. Sites
Indication	Region	Country	Site
Ophthalmological			
Glaucoma	2	4	4

Devices with regulatory approvals. Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

Insightec LTD

Devices			
3 Total devices	Approved devices		
Name	Status	Treatment guidance	Planning guidance
Exablate Body	+	MR guidance	MR guidance
Exablate Neuro	+	MR guidance	MR/CT guidance
Exablate Prostate	+	MR guidance	MR guidance

Approvals			
15 Approved indications	5 Regions	28 Countries	166 Total approvals*
Indication	Region	Country	Agency and date
Musculoskeletal			
Arthritis, facetogenic	 Europe Europe Asia Asia Asia South America Oceania Oceania 	Europe Russia Turkey Hong Kong Kazakhstan South Korea Thailand Chile Australia New Zealand	CE Marking, 2006 Roszdravnadzor, 2017 TITUBB, 2017 MDD, 2020 NCEM, 2019 MFDS, 2015 FDA, 2020 ANAMED, 2018 TGA, 2006 MEDSAFE, 2006

Devices with regulatory approvals.
Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

Approvals continued			
Indication	Region	Country	Agency and date
Musculoskeletal continued			
Bone cancer	EuropeEuropeAsiaAsiaAsiaAsiaSouth America	Europe Russia Turkey Hong Kong Israel Kazakhstan Thailand Chile	CE Marking, 2006 Roszdravnadzor, 2017 TITUBB, 2017 MDD, 2020 AMAR, 2008 NCEM, 2019 FDA, 2020 ANAMED, 2018
Bone metastases	OceaniaOceaniaNorth AmericaNorth AmericaEuropeEurope	Australia New Zealand Canada United States Belarus Europe	TGA, 2006 MEDSAFE, 2006 Health Canada, 2013 FDA, 2012 MOH, 2021 CE Marking, 2006
	EuropeEuropeAsiaAsiaAsiaAsiaAsiaAsia	Russia Turkey Hong Kong Kazakhstan Kuwait Saudi Arabia South Korea	Roszdravnadzor, 2017 TITUBB, 2017 MDD, 2020 NCEM, 2019 MOH FDCD, 2021 SFDA, 2021 MFDS, 2015
	AsiaSouth AmericaOceaniaOceania	Thailand Chile Australia New Zealand	FDA, 2020 ANAMED, 2018 TGA, 2006 MEDSAFE, 2006

Clinical Device Manufacturers with Regulatory Approvals continued

Approvals continued			
Indication	Region	Country	Agency and date
Musculoskeletal continu	ed		
Bone tumors, benign	 Europe Europe Asia Asia Asia South America Oceania Oceania 	Europe Russia Turkey Hong Kong Kazakhstan Thailand Chile Australia New Zealand	CE Marking, 2006 Roszdravnadzor, 2017 TITUBB, 2017 MDD, 2020 NCEM, 2019 FDA, 2020 ANAMED, 2018 TGA, 2006 MEDSAFE, 2006
Multiple myeloma	 Europe Europe Asia Asia Asia South America Oceania Oceania 	Europe Russia Turkey Hong Kong Kazakhstan Thailand Chile Australia New Zealand	CE Marking, 2006 Roszdravnadzor, 2017 TITUBB, 2017 MDD, 2020 NCEM, 2019 FDA, 2020 ANAMED, 2018 TGA, 2006 MEDSAFE, 2006
Neurological			
Depression	Asia	South Korea	MFDS, 2015
Essential tremor	 North America North America Europe Europe Europe Asia Asia Asia Asia Asia Asia Asia Asia Asia 	Canada United States Europe Russia Turkey United Kingdom China Hong Kong India Israel Japan	Health Canada, 2016 FDA, 2016 CE Marking, 2012 Roszdravnadzor, 2017 TITUBB, 2017 MHRA, 2022 NMPA, 2021 MDD, 2020 CDSCO, 2021 AMAR, 2015 MHLW, 20160

Approvals continued			
Indication	Region	Country	Agency and date
Neurological continued			
Essential tremor continued	■ Asia	Kazakhstan	NCEM, 2020
	■ Asia	Philippines	FDA, 2018
	Asia	Singapore	HSA, 2021
	Asia	South Korea	MFDS, 2015
	Asia	Taiwan	FDA, 2017
	■ Asia	Thailand	FDA, 2020
	Asia	United Arab Emirates	MOHAP, 2022
	South America	Argentina	ANMAT, 2019
	South America	Brazil	ANVISA, 2020
	South America	Chile	ANAMED, 2018
	South America	Colombia	INVIMA, 2021
	South America	Peru	DIGEMED, 2021
	Oceania	Australia	TGA, 2015
Neuropathic pain	■ Europe	Europe	CE Marking, 2012
	■ Europe	Russia	Roszdravnadzor, 2017
	■ Europe	Turkey	TITUBB, 2017
	■ Europe	United Kingdom	MHRA, 2022
	■ Asia	Hong Kong	MDD, 2020
	■ Asia	India	CDSCO, 2021
	Asia	Israel	AMAR, 2015
	Asia	Kazakhstan	NCEM, 2020
	Asia	Philippines	FDA, 2018
	Asia	South Korea	MFDS, 2015
	Asia	Thailand	FDA, 2020
	Asia	United Arab Emirates	MOHAP, 2022
	South America	Argentina	ANMAT, 2019
	South America	Brazil	ANVISA, 2020
	■ South America	Chile	ANAMED, 2018
	South America	Colombia	INVIMA, 2021
	South America	Peru	DIGEMED, 2021
	■ Oceania	Australia	TGA, 2015

Clinical Device Manufacturers with Regulatory Approvals continued

Approvals continued			
Indication	Region	Country	Agency and date
Neurological continued			
Obsessive-compulsive disorder	Asia	South Korea	MFDS, 2015
Parkinson's disease, dyskinesia	North AmericaEuropeAsiaAsia	United States Russia Japan South Korea	FDA, 2021 Roszdravnadzor, 2017 MHLW, 2020 MFDS, 2015
Parkinson's disease, tremor	North America Europe Europe Europe Europe Asia Asia Asia Asia Asia Asia Asia Asia	United States Europe Russia Turkey United Kingdom China Hong Kong India Israel Japan Kazakhstan Philippines Singapore South Korea Taiwan Thailand United Arab Emirates Argentina Brazil Chile Colombia Peru Australia	FDA, 2018 CE Marking, 2012 Roszdravnadzor, 2017 TITUBB, 2017 MHRA, 2022 NMPA, 2021 MDD, 2020 CDSCO, 2021 AMAR, 2015 MHLW, 2020 NCEM, 2020 FDA, 2018 HSA, 2021 MFDS, 2015 FDA, 2022 FDA, 2022 FDA, 2020 MOHAP, 2022 ANMAT, 2019 ANVISA, 2020 ANAMED, 2018 INVIMA, 2021 DIGEMED, 2021 TGA, 2015

Approvals continued			
Indication	Region	Country	Agency and date
Urological			
Benign prostatic hyperplasia	■ North America	United States	FDA, 2021
Prostate cancer	 North America Europe Europe Europe Asia Asia Asia Asia South America Oceania Oceania 	United States Belarus Europe Russia Turkey Hong Kong Israel Kazakhstan Thailand Chile Australia New Zealand	FDA, 2021 MOH, 2021 CE Marking, 2016 Roszdravnadzor, 2017 TITUBB, 2017 MDD, 2020 AMAR, 2022 NCEM, 2019 FDA, 2020 ANAMED, 2018 TGA, 2016 MEDSAFE, 2016
Women's health			
Uterine adenomyosis	 Europe Europe Asia Asia Asia Asia South America Oceania Oceania 	Europe Turkey Hong Kong Israel Kazakhstan Thailand Chile Australia New Zealand	CE Marking, 2006 TITUBB, 2017 MDD, 2020 AMAR, 2008 NCEM, 2019 FDA, 2020 ANAMED, 2018 TGA, 2006 MEDSAFE, 2006

Clinical Device Manufacturers with Regulatory Approvals continued

Insightec LTD continued

Indication Region	Country	Agang and data
		Agency and date
Women's health continued		
Uterine fibroids North American Europe Europe Europe Asia Asia Asia Asia Asia Asia Asia Asia	United States Belarus Europe Russia Turkey China Hong Kong Israel Japan Kazakhstan Kuwait Saudi Arabia Singapore South Korea Taiwan Thailand	Health Canada, 2013 FDA, 2004 MOH, 2021 CE Marking, 2006 Roszdravnadzor, 2006 TITUBB, 2017 NMPA, 2013 MDD, 2020 AMAR, 2003 MHLW, 2006 NCEM, 2019 MOH FDCD, 2021 SFDA, 2021 HSA, 2012 MFDS, 2011 FDA, 2006 FDA, 2020 ANAMED, 2018 TGA, 2006 MEDSAFE, 2006

Insightec is a global healthcare company creating the next generation of patient care by realizing the therapeutic power of acoustic energy. Insightec is dedicated to the research and commercial application of focused ultrasound in multiple indications"

— Insightec іNС

Clinical research				
40		47	7.0	
40	4	1/	/6	
Indications	Regions	Countries	Sites	
Indication	Region	Country	Site	
Gastrointestinal				
Liver tumors	1	1	2	
Pancreatic tumors, malignant	2	2	2	
Miscellaneous				
Head & neck tumors	1	2	2	
Musculoskeletal				
Arthritis, facetogenic	2	5	6	
Arthritis, knee	1	1	1	
Bone cancer	1	1	2	
Bone metastases	3	7	12	
Bone tumors, benign	1	1	1	
Osteoid osteoma	2	3	5	
Soft tissue cancer	2	2	2	
Soft tissue tumors, benign	2	2	2	
Neurological				
Alzheimer's disease	2	3	9	
Amyotrophic lateral sclerosis	1	1	1	
Astrocytoma	1	1	2	
Brain metastases, breast cancer	1	1	1	
Brain metastases, lung cancer	1	2	4	
Brain metastases, melanoma	1	1	1	
Brain tumors, general	1	2	2	

Clinical Device Manufacturers with Regulatory Approvals continued

Insightec LTD continued

Clinical research continued

Indication	Region	Country	Site
Neurological continued			
Cancer pain	1	1	1
Depression	2	2	2
Dystonia	1	3	3
Dystonia, hand	1	1	1
Epilepsy	2	2	7
Essential tremor	3	10	17
Glioblastoma	3	6	16
Multiple sclerosis	1	1	1
Neurofibromatosis	1	1	1
Neuropathic pain	1	1	1
Obsessive-compulsive disorder	1	1	2
Painful amputation neuromas	1	1	1
Parkinson's disease, dyskinesia	3	4	14
Parkinson's disease, tremor	3	7	12
Parkinson's disease, underlying cause	1	1	1
Pontine glioma	1	2	4
Tremor, orthostatic	1	1	1
Trigeminal neuralgia	1	1	1
Urological			
Prostate cancer	2	2	6
Women's health			
Endometriosis	1	1	1
Uterine adenomyosis	3	4	5
Uterine fibroids	4	11	15

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Profound Medical CORP

Devices			
2	2		
Total devices	Approved devices		
Name	Status	Treatment guidance	Planning guidance
Sonalleve	+	MR guidance	MR guidance
TULSA-PRO	+	MR guidance	MR guidance

Approvals ¹				
7 Approved indications	5 Regions	12 Countries	33 Total approvals*	
Indication Musculoskeletal	Region	Country	Agency and date	
Bone metastases	EuropeAsiaAsiaAsiaSouth AmericaOceaniaOceania	Europe Malaysia Singapore Vietnam Argentina Australia New Zealand	CE Marking, 2011 MDA, 2015 HSA, 2021 DMEW, 2010 ANMAT, 2012 TGA, 2012 MEDSAFE, 2012	
Desmoid tumors	■ Europe	Europe	CE Marking, 2021	
Osteoid osteoma	North AmericaEuropeAsia	United States Europe Singapore	FDA, 2020 CE Marking, 2020 HSA, 2021	

Devices with regulatory approvals.

Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

¹ Approvals may have changed or been updated since publication. For the most up-to-date information please visit: fusfoundation.org/the-foundation/programs/regulatory-approvals-search.

Profound Medical corp continued

Approvals continued			
Indication	Region	Country	Agency and date
Urological			
Benign prostatic hyperplasia	■ North America	United States	FDA, 2019
Prostate cancer	North AmericaNorth AmericaEuropeAsia	Canada United States Europe Singapore	Health Canada, 2019 FDA, 2019 CE Marking, 2016 HSA, 2019
Women's health			
Uterine adenomyosis	EuropeAsiaAsiaSouth AmericaOceaniaOceania	Europe Malaysia Vietnam Argentina Australia New Zealand	CE Marking, 2010 MDA, 2015 DMEW, 2010 ANMAT, 2012 TGA, 2012 MEDSAFE, 2012
Uterine fibroids	 North America Europe Asia Asia Asia Asia Asia South America Oceania Oceania 	Canada Europe China Malaysia Saudi Arabia Singapore South Korea Vietnam Argentina Australia New Zealand	Health Canada, 2013 CE Marking, 2009 NMPA, 2018 MDA, 2015 SFDA, 2015 HSA, 2021 MFDS, 2012 DMEW, 2010 ANMAT, 2012 TGA, 2012 MEDSAFE, 2012

Clinical Device Manufacturers with Regulatory Approvals continued

Profound Medical corp continued

Clinical research				
22	3	10	28	
Indications	Regions	Countries	Sites	
Indication	Region	Country	Site	
Gastrointestinal				
Liver tumors	1	1	1	
Pancreatic tumors, malignant	1	1	2	
Miscellaneous				
Head & neck tumors	1	1	1	
Multiple tumors ¹	1	1	1	
Musculoskeletal				
Arthritis, facetogenic	1	1	1	
Arthritis, sacroiliac	1	1	1	
Bone cancer	1	2	4	
Bone metastases	2	5	6	
Bone tumors, benign	1	2	2	
Desmoid tumors	2	5	6	
Osteoid osteoma	2	2	3	
Plantar fasciitis	1	1	1	
Soft tissue cancer	1	2	2	
Soft tissue tumors, benign	2	2	2	
Neurological				
Neuroblastoma	1	1	1	
Urological				
Benign prostatic hyperplasia	1	1	1	
Prostate cancer	2	6	15	

¹ Protocols inclusive of more than one indication

Profound Medical corp continued

Clinical research continued				
Indication	Region	Country	Site	
Women's health				
Breast tumors, malignant	2	2	2	
Uterine adenomyosis	2	3	3	
Uterine fibroids	2	5	7	
Vaginal tumors	1	1	1	

Profound develops customizable, incision-free ablative therapies which combine real-time MRI, thermal ultrasound, autonomous robotics, and closed-loop process control to change the standard of care for physicians and patients."

— Profound Medical CORP

Shanghai A&S Science Technology Development co, LTD

Devices			
Total device	Approved device		
Name	Status	Treatment guidance	Planning guidance
HIFUNIT9000	+	US guidance	MR guidance
Approvals			
5	2	4	8
Approved indications	Regions	Countries	Total approvals*
Indication	Region	Country	Agency and date
Gastrointestinal			
Liver tumors	Asia	China	NMPA, 2002
Musculoskeletal			
Bone metastases	Asia	China	NMPA, 2002
Soft tissue cancer	■ Asia	China	NMPA, 2002
Women's health			
Breast tumors, malignant	Asia	China	NMPA, 2002
Uterine fibroids	EuropeAsiaAsiaAsia	Europe China South Korea Thailand	CE Marking, 2008 NMPA, 2002 MFDS, 2007 FDA, 2013

[•] Devices with regulatory approvals.

Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

Shanghai A&S Science Technology Development co, LTD continued

Clinical research				
1 Indication	T Region	1 Country	1 Site	
Indication	Region	Country	Site	
Gastrointestinal				
Liver tumors	1	1	1	

Shanghai A&S Science Technology

Development is a leading company focused on high intensity focused ultrasound for tumor ablation with ultrasound guidance. Based in Shanghai, A&S has expanded business in Asia with over 200 installations."

— Shanghai A&S Science Technology Development со LTD

Shende Medical Equipment Technology co LTD

Devices				
Total device	Approved device			
Name	Status	Treatment guidance	Planning guidance	
Aceso	+	MR guidance	_	

Approvals				
Approved indication	Region	Country	Total approvals*	
Indication	Region	Country	Agency and date	
1	■ Europe	Europe	CE Marking, 2020	

Devices with regulatory approvals. Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

¹ Indication(s) unknown

Shende Medical Equipment Technology co LTD continued

Clinical research			
4. Indications	T Region	Country	4. Sites
Indication	Region	Country	Site
Musculoskeletal			
Bone metastases	1	1	3
Women's health			
Breast tumors, benign	1	1	2
Uterine adenomyosis	1	1	3
Uterine fibroids	1	1	3

Shenzhen PRO-HITU Medical Technology co, LTD

Devices			
5	3		
Total devices	Approved devices		
Name	Status	Treatment guidance	Planning guidance
PRO2008	+	US guidance	US guidance
PRO300	+	US guidance	US guidance
PRO3008	_	US guidance	US guidance
PRO5G	+	Other guidance	Visual guidance
UT1000	_	Unguided	Not used

Approvals			
4 Approved indications	2 Regions	4 Countries	10 Total approvals*
Indication	Region	Country	Agency and date
Women's health			
Hyperplasia of the vulva	Asia	China	NMPA, 2019
Lichen sclerosis	Asia	China	NMPA, 2019
Uterine adenomyosis	Asia Asia	China South Korea	NMPA, 2012 MFDS, 2016
Uterine fibroids	EuropeAsiaAsia	Europe China Taiwan	CE Marking, 2012 MDA, 2012 FDA, 2018

Devices with regulatory approvals.
Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

Shenzhen PRO-HITU Medical Technology co, LTD continued

Clinical research				
2 Indications	1 Region	1 Country	4. Sites	
Indication	Region	Country	Site	
Women's health				
Uterine adenomyosis	1	1	3	
Uterine fibroids	1	1	3	

Shenzen PRO-HITU Medical Technology

was established in 2003, focusing on R&D of large ultrasonic treatment equipment. Vision: The pioneering of Non-Invasive Therapy. Mission: Respect Life in Therapy."

— Shenzen PRO-HITU Medical со, LTD

Sonablate CORP

Devices				
2 Total devices	2 Approved devices			
Name	Status	Treatment guidance	Planning guidance	
Sonablate	+	US guidance	MR/US fusion	
Sonatherm	+	US guidance	US guidance	

Approvals			
2 Approved indications	6 Regions	25 Countries	46 Total approvals*
Indication	Region	Country	Agency and date
Urological			
Benign prostatic hyperplasia	North America North America North America North America Europe Europe Asia Asia Asia Asia Asia Asia Asia Asia	Canada Costa Rica Dominican Republic United States Europe Russia United Kingdom China Hong Kong India Israel Japan Macau South Korea	Health Canada, 2005 Ministerio de Salud, 2005 MISPAS, 2005 FDA, 2006 CE Marking, 2006 Roszdravnadzor, 2005 MHRA, 2019 NMPA, 2022 MDD, 2018 CDSCO, 2011 AMAR, 2018 MHLW, 2001 ISAF, 2020 MFDS, 2016 DMEW, 2009

Devices with regulatory approvals.
Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on pp. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

Sonablate corp continued

Approvals continued			
Indication	Region	Country	Agency and date
Urological continued			
Benign prostatic hyperplasia con't.	South AmericaSouth AmericaSouth AmericaSouth AmericaOceania	Argentina Colombia Ecuador Trinidad and Tobago Australia	ANMAT, 2006 INVIMA, 2015 ANRCVS, 2011 Ministry of Health, 2012 TGA, 2005
Prostate cancer	North America Europe Europe Europe Asia Asia Asia Asia Asia Asia South America South America South America South America South America South America Coceania Africa	Bahamas Barbados Canada Costa Rica Dominican Republic United States Europe Russia United Kingdom China Hong Kong India Israel Macau Pakistan South Korea Taiwan Vietnam Argentina Colombia Ecuador Trinidad and Tobago Australia South Africa	Ministry of Health, 2007 Ministry of Health and Wellness, 2010 Health Canada, 2005 Ministerio de Salud, 2005 MISPAS, 2005 FDA, 2006 CE Marking, 2006 Roszdravnadzor, 2005 MHRA, 2019 NMPA, 2020 MDD, 2018 CDSCO, 2011 AMAR, 2018 ISAF, 2020 DRAP, 2015 MFDS, 2016 FDA, 2020 DMEW, 2009 ANMAT, 2006 INVIMA, 2015 ANRCVS, 2011 Ministry of Health, 2012 TGA, 2005 MCC, 2007

Clinical Device Manufacturers with Regulatory Approvals continued

Sonablate corp continued

Clinical research			
6 Indications	3 Regions	5 Countries	15 Sites
Indication	Region	Country	Site
Gastrointestinal			
Colorectal tumors	1	1	2
Urological			
Prostate cancer	3	5	15
Women's health			
Cervical tumors	1	1	2
Endometrial tumors	1	1	1
Ovarian tumors	1	1	1
Vaginal tumors	1	1	1

Sonablate is the leading innovator in minimally invasive ablation technology using high intensity focused ultrasound (HIFU). The Sonablate® prostate ablation system incorporates MRI/US image fusion for whole-gland, hemi, or focal procedures."

— Sonablate CORP

Theraclion SA

Devices				
2 Total devices	Approved devices			
Name	Status	Treatment guidance	Planning guidance	
Echopulse	+	US guidance	US guidance	
SONOVEIN	+	US guidance	Not used	

Approvals			
4 Approved indications	2 Regions	8 Countries	19 Total approvals*
Indication	Region	Country	Agency and date
Cardiovascular			
Varicose veins	EuropeAsiaAsia	Europe Hong Kong Singapore	CE Marking, 2019 MDD, 2021 HSA, 2019
Endocrine disorders			
Thyroid nodules	EuropeEuropeAsiaAsiaAsiaAsiaAsia	Europe Russia Hong Kong Malaysia South Korea Singapore Taiwan	CE Marking, 2007 Roszdravnadzor, 2017 MDD, 2007 MDA, 2019 MFDS, 2017 HSA, 2016 FDA, 2019
	Asia	Singapore	HSA, 2016

[♣] Devices with regulatory approvals. Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

Clinical Device Manufacturers with Regulatory Approvals continued

Theraclion sa continued

Approvals continued			
Indication	Region	Country	Agency and date
Women's health			
Breast tumors, benign	■ Europe	Europe	CE Marking, 2012
	■ Europe	Russia	Roszdravnadzor, 2017
	■ Asia	Hong Kong	MDD, 2012
	■ Asia	Malaysia	MDA, 2019
	■ Asia	Singapore	HSA, 2016
	■ Asia	South Korea	MFDS, 2017
	■ Asia	Taiwan	FDA, 2018
	■ Asia	Thailand	FDA, 2019

Clinical research				
13 Indications	3 Regions	8 Countries	20 Sites	
Indication	Region	Country	Site	
Cardiovascular				
Varicose veins	3	4	4	
Endocrine disorders				
Graves' disease	1	1	1	
Thyroid nodules	1	3	9	
Gastrointestinal				
Esophageal tumors	1	1	1	
Gastric tumors	1	1	1	

Theraclion sa continued

Clinical research continued				
Indication	Region	Country	Site	
Miscellaneous				
Melanoma	1	1	1	
Multiple tumors ¹	1	1	1	
Pulmonary				
Lung cancer	1	1	1	
Urological				
Acute tubular necrosis	1	1	1	
Women's health				
Breast tumors, benign	2	2	5	
Breast tumors, malignant	2	2	2	
Cervical tumors	1	1	1	
Ovarian tumors	1	1	1	

Theraclion believes that surgery, as we know it, is outdated. We replace it with a robotic treatment from outside the body using HIFU. Our leading-edge platforms are CE marked for varicose veins, breast fibroadenomas, and thyroid nodules."

— Theraclion sa

¹ Protocols inclusive of more than one indication

Clinical Device Manufacturers with Regulatory Approvals continued

Theraclion SA - Veterinary Medicine

Devices				
Total device	Approved device			
Name	Status	Treatment guidance	Planning guidance	
Echopulse	+ 1	US guidance	US guidance	

Clinical research				
1 Indication	1 Region	1 Country	1 Site	
Indication	Region	Country	Site	
Feline				
Soft tissue cancer	1	1	1	

Devices with regulatory approvals.
Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

¹ Veterinary devices are not subject to regulatory review.

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Clinical Device Manufacturers with Regulatory Approvals continued

TOOsonix A/s

Devices			
2 Total devices	Approved device		
Name	Status	Treatment guidance	Planning guidance
System ONE-M	+	Image fusion	Visual guidance
System ONE-R	_	Image fusion	Visual guidance

Approvals			
O Approved indications ¹	1 Region	Country	O Total approvals*1
Indication	Region	Country	Agency and date
_	■ Europe	Europe	CE Marking, 2020

Devices with regulatory approvals.

Companies in this section can have approval for more than one indication from a given regulatory agency. To see a breakdown of the regional approvals, indications, and timelines, see charts starting on p. IX.22.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.

¹ This device is currently approved for aesthetic indications, which are not tracked by the Foundation.

TOOsonix s/A continued

Clinical research			
4. Indications	2 Regions	5 Countries	6 Sites
Indication	Region	Country	Site
Miscellaneous			
Actinic keratosis	1	2	2
Basal cell carcinoma	1	2	3
Kaposi's sarcoma	1	1	1
Neurological			
Neurofibromatosis	2	2	2

TOOsonix is a Danish medical device company committed to the field of dermatology. Our CE marked 20 MHz HIFU systems deliver noninvasive ultrasound to target areas in the human skin, destroying target tissue, while surrounding tissue remains unharmed."

— TOOsonix A/s

Wuxi Haiying Electronic Medical Systems со, цтр



Approvals			
Approved indication	Region	Country	Total approval*
Indication	Region	Country	Agency and date
Women's health Uterine fibroids	■ Asia	China	NMPA, 2016

Devices with regulatory approvals.

^{*} The product of the number of approving agencies and the number of indications defined therein. More than one device may be approved for the same indication.



Approved Clinical Devices

Acoustic MedSystems		
TheraVision	No image	

Alpinion Medical Systems

Alpius 900



As ambassadors for the technology to the wider public audience we often get asked what focused ultrasound medical devices look like. New in 2022, we are including a photographic index of focused ultrasound devices that are commercially available. The photos included were provided by the manufacturers. If there is no image, we were unable to secure a photo of the device by the publication date.

Approved Clinical Devices continued

Changjiangyuan Technology Development		
NUTAS - Non-invasive Ultrasound Tumor Ablation System	No image	
SUPER Knife - Focused Beam Therapy System	No image	

Chongqing Haifu Medical T	echnology
CZB	
CZF	No image

Approved Clinical Devices continued

IC No image JC200

EDAP TMS

Ablatherm



Focal One





Approved Clinical Devices continued

EpiSonica

ArcBLATE (ARC-100M)



EyeTechCare

EyeOP1



Insightec

Exablate Body



Exablate Neuro



Exablate Prostate



Approved Clinical Devices continued

Profound Medical

Sonalleve



TULSA-PRO



Shanghai A&S Science Technology Development

HIFUNIT9000



Shende Medical Equipment Technology

Aceso



Shenzhen PRO-HITU Medical Technology

PRO2008



PRO300



PRO5G



Sonablate Sonatherm

Approved Clinical Devices continued

Theraclion

Echopulse



SONOVEIN



TOOsonix System ONE-M

Wuxi Haiying Electronic Medical Systems	
HY2900	No image