Commercial Partner	City	Country	PI(s)	Device Name(s)	Overal Status	History	Active Funding?	CONTACT INFO	Website	Last Updated	Notes
Second Sight Medical Products LLC	Sylmar, CA	USA	M. Humayun, J. Weiland	Argus II, Argus I	Active, CE and FDA approval, 2011 approved in UK and Switzerland according to Maghami et al. 2014, Retina Prosthesis Project disbanded in 2002 when Humayun moved to CA and formed the Intraocular Retinal Prosthesis Group. 2002 FDA approval for human testing. First implant Feb. 2002. 14.02.2013 FDA approved ARGUS II.	-	Y,	M. Humayun	http://artificialretina.energy.gov/	17.09.2016, Rathbun	-
Bionic Eye Technologies Inc.	Boston, MA	USA	J. Rizzo, J. Wyatt (deceased), W. A. Drohan	Boston Retinal Prosthesis	Active, Founded in 1988, separated from other groups(?) 2002?, Nov. 9, 2000 FDA approval human testing	-	Y, to conduct pre-clinical trials.	Joseph Rizzo <Joseph_Rizzo@meei.harvard.edu>	http://www.bostonretinalimplant.org/	01.09.2016, Rathbun	-
Bionic Vision Technologies	Melbourne	Australia	R. Shepherd, C. Williams, P. Allen, R. Guymer, P. Blamey, A. Burkitt, N. Barnes	44ch Fully-Implantable Suprachoroidal, 24ch Prototype Suprachoroidal	Active, 44ch Fully Implantable Suprachoroidal device being commercialised through Bionic Vision Technologies Pty Ltd (Australia), 24ch protype key published studies - Nayagam et al PlosOne 2014, Ayton et al PlosOne 2014	Bionic Vision Australia (BVA) awarded funding in October 2009, 24ch prototype suprachoroidal developed 2010-12, Phase 1 Clinical Trial with 24ch prototype completed (3 patients) 2012-14, 44ch fully-implantable suprachoroidal developed (2012-2016), Phase 1 Clinical Trial with 44chFI expected (starting Nov 2016), being commercialised through Bionic Vision Technologies Pty Ltd (Australia)	Y, Shared the AUD$50 million 6 year funding to Bionic Vision Australia from the Australian Research Council's Special Research Initiative in Bionic Vision Science and Technology grant 2010-15, Australian National Health and Medical Research Council Grant AUD$1.2 million to CI's Allen, Williams, Ayton, Luu, Barnes, Petoe 2016-18	Rob Shepherd <rshepherd@bionicsinstitute.org>, Chris Williams <cwilliams@bionicsinstitute.org>, Penny Allen <pjallen@melbourneretina.com.au>, Robyn Guymer <rh.guymer@unimelb.edu.au>, Tony Burkitt <aburkitt@unimelb.edu.au>	http://bionicvision.org.au/	02.09.2016, C. Abbott	-
Bionic Vision Technologies	Sydney	Australia	G. Suaning, N. Lovell, A. Burkitt	Phoenix 99 Suprachoroidal	Active, Phoenix 99 Suprachoroidal device being commercialised through Bionic Vision Technologies Pty Ltd (Australia)	Bionic Vision Australia (BVA) awarded funding in October 2009, Phoenix 99 Suprachoroidal developed, currently in final stages of preclinical evaluation, Phase 1 Clinical Trial expected 2017, being commercialised through Bionic Vision Technologies Pty Ltd (Australia)	Y, Shared the AUD$50 million 6 year funding to Bionic Vision Australia from the Australian Research Council's Special Research Initiative in Bionic Vision Science and Technology grant 2010-15 (post 2015??)	Gregg Suaning <g.suaning@unsw.edu.au>, Nigel Lovell <n.lovell@unsw.edu.au>, Tony Burkitt <aburkitt@unimelb.edu.au>	http://bionicvision.org.au/	02.09.2016, C. Abbott	-
Bionic Vision Technologies and iBionics	Melbourne	Australia	S. Prawer, H. Meffin, A. Burkitt	Diamond-based Epiretinal	Active, Diamond-based epiretinal device being commercialised through BVT and iBionics (Canada)	Bionic Vision Australia (BVA) awarded funding in October 2009, diamond-based epiretinal device developed, undergone early stages of preclinical testing, now being further developed and commercialised through iBionics (Canada)	Y, Shared the AUD$50 million 6 year funding to Bionic Vision Australia from the Australian Research Council's Special Research Initiative in Bionic Vision Science and Technology grant 2010-15 (post 2015??)	Steven Prawer <s.prawer@unimelb.edu.au>, Hamish Meffin <hmeffin@unimelb.edu.au>, Tony Burkitt <aburkitt@unimelb.edu.au>	http://bionicvision.org.au/ and http://ibionics.ca/	02.09.2016, C. Abbott	-
Biomedical Technologies, SL	Elche	Spain	E. Fernandez	CORTIVIS	Active,	Founded 2001, Animal testing 2001-2015, Biocompatibility studies 2005-2015, Preclinical tests 2014	Y, Ministry, of Science (Spain), the Spanish Blind Organization (ONCE), and the Bidons Egara Research Chair. EU, National grants	Eduardo Fernandez <e.fernandez@umh.es>	http://cortivis.umh.es/; http://nbio.umh.es	10.09.2016, Fernandez	-
-	Beijing	China	Q. Ren, X. Li	C-Sight	Active,	-	Y, Chinese Ministry of Science and Technology Under National Key Basic Research	Qiushi Ren <renqsh@sjtu.edu.cn>	http://en.coe.pku.edu.cn/Outstanding-Talents/56.htm	10.08.2016, Rathbun	-
MicroProbes, Sigenics	Chicago, IL	USA	P. Troyk	ICVP	Active, Evolved from NPP in 2000.	-	-	Philip Troyk <troyk@iit.edu>	http://neural.iit.edu/research/icvp/	17.09.2016, Rathbun	-
-	Bremen	Germany	A. Kreiter, U. Ernst, W. Lang	- none - (Basic Research)	Active, Started in 2013. The technological results are decribed in „Schander. 2015. Design and fabrication of multi-contact flexible silicon probes for intracortical floating implantation" „Tolstosheeva 2015 A Multi-Channel, Flex-Rigid ECoG Microelectrode Array for Visual Cortical Interfacing"		Y, likely extension until 2019	kreiter@brain.uni-bremen.de	http://www.isee.uni-bremen.de/	23.08.2016, Rotermund	DFG Priority-Programm 1665 (InAuKa) Full title is „Priority Programme: Resolving and Manipulating Neuronal Networks in the Mammalian Brain - from Correlative to Causal Analysis : Interareal phase coherence as a mechanism for attention-dependent neuronal signal routing: A model-guided causal analysis using new, multi-contact floating silicon probes for intracortical chronic stimulation and recording in primates"
-	Bremen	Germany	W. Lang, S. Paul, A. Kreiter, K. Pawelzik	- none - (Basic Research)	Active, Started in October 2013. Technological results: „Osipov 2015 A New Current Stimulator Architecture for Visual Cortex Stimulation" „Osipov 2015 A Novel HV-Switch Scheme with Gate-Source Overvoltage Protection for Bidirectional Neural Interfaces"	losely connected to the former BMBF Kalomed project http://www.kalomed.info http://dx.doi.org/10.1101/036855	Y, Ends in autumn 2017	David Rotermund <davrot@neuro.uni-bremen.de>	http://www.isee.uni-bremen.de/	23.08.2016, Rotermund	University of Bremen Creative Unit I-See (funded through the excellence initiative) Full title: „Creative Unit I-See: The artifical eye: Chronic wireless interface to the visual cortex"
Bionic Eye Technologies Inc.	Boston, MA	USA	J. Pezaris	MGH Thalamic Visual Prosthesis	Active,		Y, NIH / DoD / private	John Pezaris <john@pezaris.com>	http://sight2blind.org/	05.09.2016, Pezaris	-
Grey Innovations, MiniFAB	Melbourne	Australia	A. Lowery, J. Rosenfeld, M. Rosa, R. Rajan	Gennaris bionic vision system. Direct-to-brain bionic eye	Active, Preparing for first in human trials.	Monash Vision Group awarded funding October 2009, developed Monash Cortical Implant, currently in final stages of preclinical evaluation, Phase 1 Clinical Trial expected 2017	Y, AUD$8 million of the 4-year pool from the 2010 Australian Research Council's Special Research Initiative in Bionic Vision Science and Technology grant 2010-14, Since 2014 received additional $1.9M from ARC, plus philanthropic donations and university funding.	Jeffrey Rosenfeld <jeffrey.rosenfeld@monash.edu>, Arthur Lowery <Arthur.Lowery@monash.edu>, Jeanette Pritchard <jeanette.pritchard@monash.edu>	www.monash.edu/bioniceye	14.09.2016, Pritchard	-
NanoRetina	Herzliya	Israel	E. Cohen-Arazi, Y. Milstain	NanoRetina	Active, Startup company	-	-	Y. Milstain?	http://www.nano-retina.com/	16.09.2016, Rathbun	Is distinct from QuantumRetina although Yael Hanein is involved with both.
MINORI INDUSTRY CO., LTD.	Okayama	Japan	T. Matsuo	OUReP	Active, Preclinical stage	-	Y, Funded by AMED, Japan for pre-clinical study	Toshihiko Matsuo <matsuot@cc.okayama-u.ac.jp>	http://en.coe.pku.edu.cn/Outstanding-Talents/56.htm	16.08.2016, Fujikado	Subretinal implant
Pixium	Paris	France	R. Hornig	PRIMA, IRIS (Intelligent Retinal Implant System) V1, IRIS V2 (150 trodes)	Active, In clinical trials NCT02670980	IRIS evolved from IMI technology.	Y, Program (973 Program, 2005CB724300)	<infos@pixium-vision.com> R. Hornig?	http://www.pixium-vision.com/en	10.08.2016, Rathbun	affiliates: http://www.pixium-vision.com/en/company/partners
Cortivision	Montreal	Canada	M. Sawan	PolySTIM	Active,	-	-	Mohamad Sawan <mohamad.sawan@polymtl.ca>	http://www.polystim.polymtl.ca/ http://www.polystim.org/?page=index.php	13.08.2016, Sawan	-
-	Tel Aviv	Israel	Y. Hanein, U. Banin	QuantumRetina	Active,	-	-	Yael Hanein <yaelha@tauex.tau.ac.il >	http://nano.tau.ac.il/hanein/index.php/projects/funmania	04.09.2016, Hanein	-
-	Seoul	Republic of Korea	J.-M. Seo, S. J. Kim	Seoul Artificial Retina	Active, Seoul Artificial Retinal Project started in 2000 supported by KOSEF Korean Science and Engineering Foundation. Polymers evaluaged: polyimide, parylene, silicone elastomer, crystalline polymer. Signal deliveries tested: laser array, scanning laser, RF transfer, nanowire-integrated photodiodes. Hermetic packaging: titanium alloy, silicone elastomer, crystalline polymers. Recent (as of 2016) animal experiments.	-	-	Jong-Mo Seo <callme@snu.ac.kr>	http://helios.snu.ac.kr/index.php?mid=page_ajUu25	10.08.2016, Rathbun	-
Metamodal BV	Eindhoven	Netherlands	P. Meijer	The vOICe	Active,	-	-	Peter Meijer <feedback@seeingwithsound.com>	https://www.seeingwithsound.com/	12.08.2016, Meijer	Unconnected to Dobelle visual prosthesis, but took over the internet domain www.artificialvision.com
A-Neuron Electronic Corp.	Hsinchu City	Taiwan	C.-Y. Wu	AmazingVision	Active, CMOS 64-pixel subretinal chip in 2011; CMOS CIS 256-pixel subretinal chip in 2014; Preclinical test in 2016	-	-	Chung-Yu (Peter) Wu <peterwu@mail.nctu.edu.tw>	http://betrc.nctu.edu.tw/	30.08.2016, Chin-Fong Chiu	-
Retina Implant GmbH	Tuebingen	Germany	E. Zrenner	Alpha IMS, Alpha AMS	Active,	Founded autumn 1995, passive prototype from IMS in March 1996. In 2003 Retina Implant AG was founded by consortium members. First generation was 7600 PDs, 2nd had alternating negative and positive PDs, third slated for 1998 was for a perforated version - see Zrenner et al. Review 1997. Worked with Optobionics 1994, 1995.	Y, (BMBF) 01 IN 502 A-D	Eberhart Zrenner <ezrenner@uni-tuebingen.de>	http://www.retina-implant.de/default.aspx	10.08.2016, Rathbun	-
Blackrock	Salt Lake City, UT	USA	R. Normann	Utah Cortical Prosthesis, Utah Intracortical Electrode Array (UIEA)	Active,		-	Richard Normann <normann@utah.edu>	http://www.bioen.utah.edu/cni/	10.08.2016, Rathbun	-
Nerve Biomed S.L.	Madrid	Spain	F. Panetsos	VISNE	Active, Preclinical stage	-	Y,	Fivos Panetsos <fivos@ucm.es>	https://www.ucm.es/grupos/grupo/120	10.09.2016, Panetsos	-
NIDEK Co. Ltd.	Osaka/Gamagori	Japan	T. Fujikado, Y. Tano (deceased), NIDEK	STS retinal prosthesis, OUReP, AV-DONE, VPP, biohybrid	Active, Pilot clinical trial completed.	Started in 2001	Y, Funded by AMED, Japan for clinical trials	Takashi Fujikado <fujikado@ophthal.med.osaka-u.ac.jp>	https://www.nidek-intl.com/visual_prosthesis/	16.08.2016, Fujikado	-
Optobionics	*Chicago, IL*	*USA*	*A. Chow, V. Chow*	*ASR - Artificial Silicon Retina*	*Inactive, Company closed*		*N*	-	-	*10.08.2016, Rathbun*	*Began in 1980s according to Dowling 2005, patent awarded 1991, By June 2000, Optobionics received approval from the US Food and Drug Administration (FDA) to commence safety and feasibility trials in six patients [53].*
NIDEK Co. Ltd.	*Osaka/Gamagori*	*Japan*	*M. Kamei, Y. Tano (deceased), NIDEK*	*AV-DONE,*	*Inactive, Stopped research work*	-	*N*	*None*	-	*16.08.2016, Fujikado*	*Implanted at Optic nerve head*
None	*Tokyo*	*Japan*	*T. Yagi*	*Biohybrid Retinal Implant*	*Inactive, Originally wanted to grow axons from the implant in the eye into the LGN*	-	*N*	*T. Yagi*	*http://www.io.mei.titech.ac.jp/research/retina/index.html*	*16.08.2016, Fujikado*	-
Epi-Ret GmbH	*Bonn*	*Germany*	*R. Eckmiller*	*EPIRET 3, EPIRET 2, EPIRET (1)*	*Inactive? EPI-RET1 in 2000 - Walter et al. 2005 and Stieglitz et al. 2000, EPI-RET II in 2003 - Mokwa 2004, EPI-RET III - Mokwa et al. 2008*	-	*N*	-	*http://www.nero.uni-bonn.de/projekte/ri/ri-index-en.htm http://www.nero.uni-bonn.de/projekte/ri/phase1/ri-phase1-en.html*	*10.08.2016, Rathbun*	-
Retina Implant GmbH, Epi-Ret GmbH	*Tuebingen*	*Germany*	*R. Eckmiller, E. Zrenner*	-	*Inactive, Evolved into Tuebingen Retinal Implant Project, EPIRET,*	*Founded 1996, split into separate groups ????*	*N >$100 committed as of May 1995*	*R. Eckmiller*	-	*10.08.2016, Rathbun*	-
-	*Baltimore, MD*	*USA*	*M. Humayun, J. Weiland*	*MARC1, MARC2, MARC3 (multiunit artificial retina chipset), IRP (intraocular retinal prosthesis), Model 1 Retinal Stimulator*	*Inactive, Evolved into Second Sight and ARP in 2001.*	-	*N*	*M. Humayun*	-	*17.09.2016, Rathbun*	*First patient implanted 2002. Argus II has implanted 5 dry AMD patients as of ARVO 2016.*
-	*Bethesda, MD*	*USA*	*E.M. Schmidt, T. Hambrecht*	*"hat-pin"*	*Inactive, Evolved into the ICVP. Discontinued 2001 according to Dowling 2005, Troyk continues the research*		*N*	-	-	*10.08.2016, Rathbun*	*at least 1 patient according to Dowling 2005*
-	*Raleigh, NC*	*USA*	*E. de Juan, W. Lu, R. Propst, H. Phillips, M. Humayun*	-	*Inactive, Evolved into IRPG after 1991, then Second Sight and ARP in 2001.*	*Started in 1987, first patent in 1990. Historical evolution per Humayun et al. 2016: Duke Eye Center 1987 with 8 years of tests @ Wilmer Eye Institute (first human tests from 1992 to 1994 starting at Duke Eye Center and transitioning to Wilmer), then transferred to Doheny Eye Institute where Second Sight was founded.*	*N*	*M. Humayun*	-	*17.09.2016, Rathbun*	*Humayun et al. 2016 review cites the 1990 patent as the formal start of the epiretinal prosthesis project.*
-	*Brussels*	*Belgium*	*Delbeke, Veraart*	*OptiVip, MiVip*	*Inactive,*	-	*N*	*Jean Delbeke <delbeke@gren.ucl.ac.be>*	*http://www.gren.ucl.ac.be/Projets/optivip.html*	*18.09.2016, Rathbun*	-