

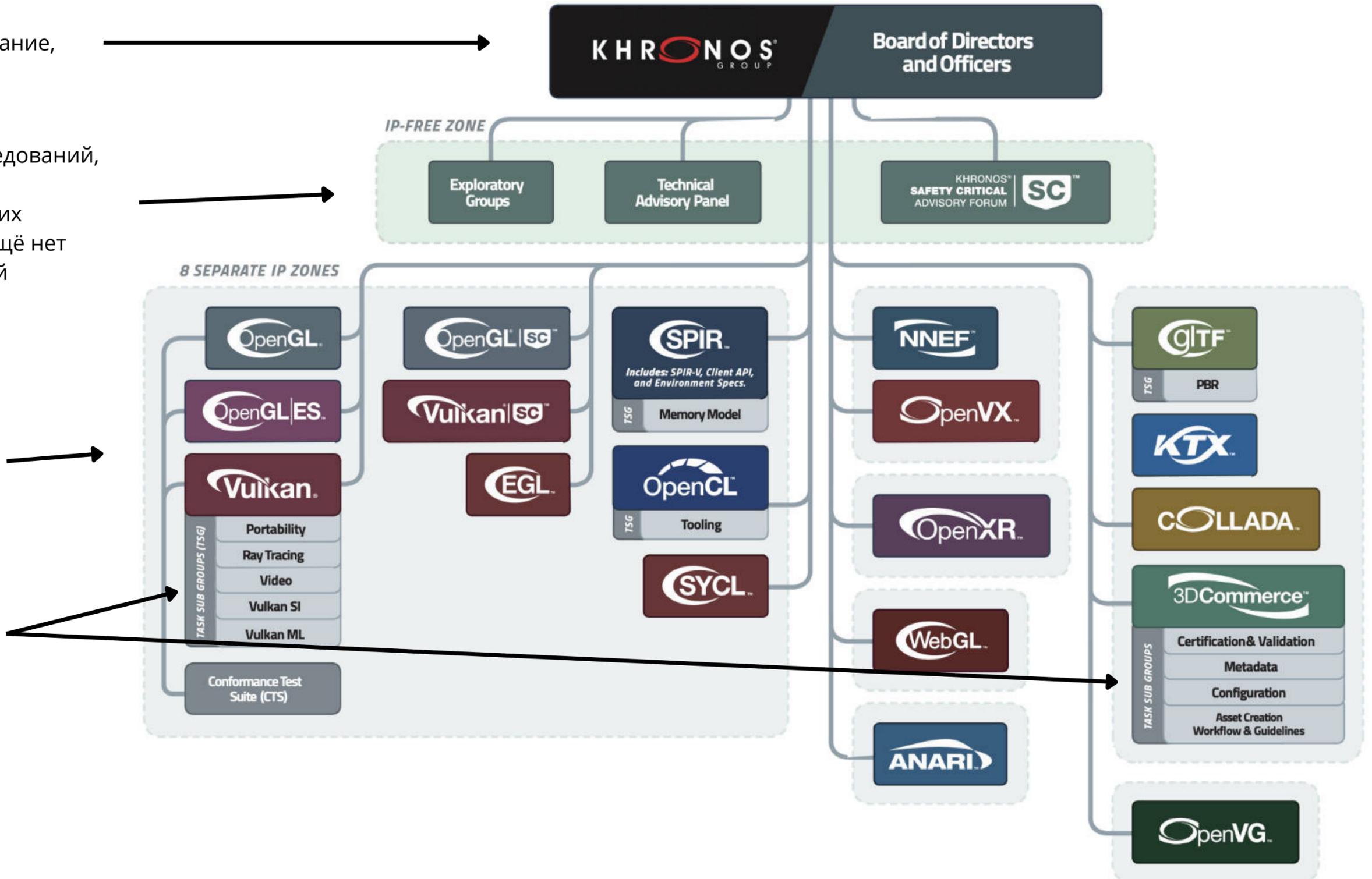
# Структура отраслевого и межотраслевого консорциума на примере Khronos Group

Совет директоров — стратегическое планирование, управление

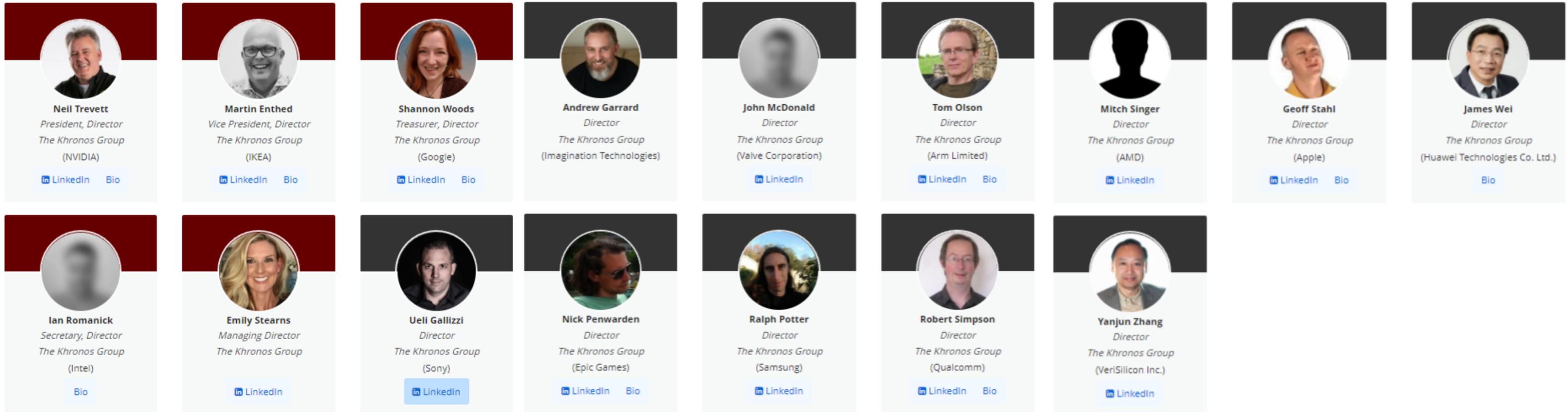
Группы проведения исследований, советников, построения инфраструктуры и внешних коммуникаций — здесь ещё нет обмена интеллектуальной собственностью

Рабочие группы конкретных стандартов. Здесь производится обмен интеллектуальной собственностью

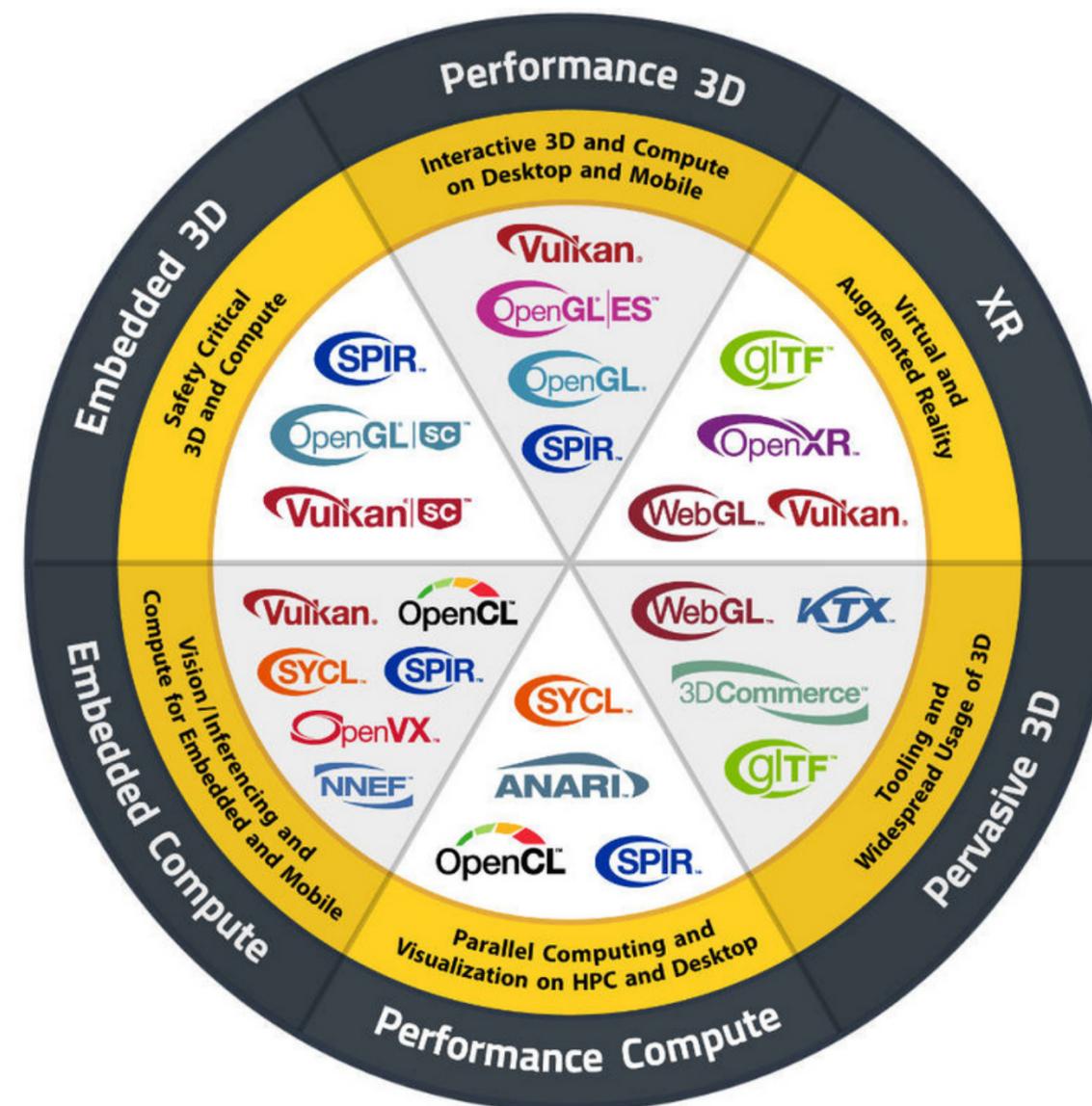
Возможно деление на подгруппы



Совет директоров состоит из представителей крупных технологических компаний и деятелей ИТ-рынка



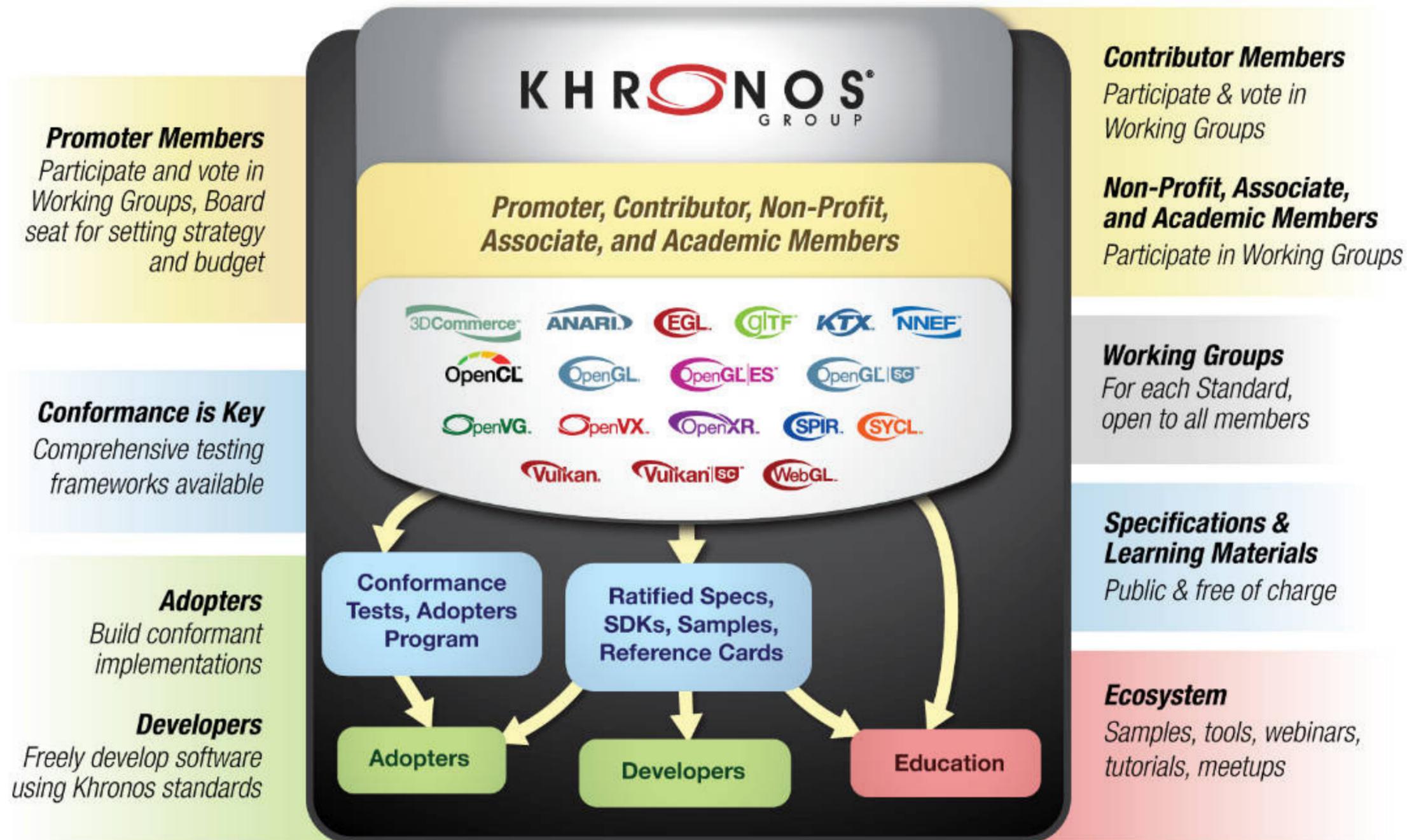
Для удобства взаимодействия всех участников, включая менеджмент и внешние коммуникации, консорциум поделён по технологическим направлениям и рыночным сегментам



Консорциум предусмотрел роли для очень разных участников, включая малый бизнес, научно-исследовательские учреждения и даже частные лица

- **Promoter Members** - Board Approval Required. Full working group participation and voting rights PLUS the right to designate a Director to the Khronos Board.
- **Contributor Members** - Available to any entity that wishes to join. Have full working group participation and voting rights.
- **Associate Members** - Available to companies with fewer than 100 employees. Have full working group participation but without working group voting rights.
- **Academic Members** - Available to accredited Academic Institutions. Have full working group participation but without working group voting rights.
- **Non-Profit Members** - Available to registered Non-Profit entities. Have full working group participation but without working group voting rights.
- **Individual Contributors** - Available by invitation only.
- **Liaisons** - Cooperation with industry associations and organizations. Additional details [available here](#).

Структура с точки зрения участников



## Membership with Voting Rights

Promoter Member	Contributor Member
\$75,000 per year	\$18,000 per year
Board Approval Required	Available to any entity that wishes to join
The right to designate a Director to the Khronos Board.	
Full working group participation and voting rights.	
<a href="#">Join Today</a>	

## Membership with No Formal Voting Rights

Non-Profit Member**	Associate Member*	Academic Member
\$7,500 per year	\$3,500+ per year	\$1,000 per year
Available to registered Non-Profit entities	Available to companies with up to 100 full-time employees. \$175 per employee	Available to accredited Academic Institutions
Full working group participation. No formal voting rights.		
<a href="#">Join Today</a>		

Участие не бесплатное.  
Цена зависит от потребностей и прав

## Membership Dues Increase

Effective **January 1, 2024**, Khronos will raise the dues for most membership levels. If you have any questions about membership dues and renewals, please contact [memberservices@khronosgroup.org](mailto:memberservices@khronosgroup.org).

Level	Effective 2024
Promoter	\$90,000
Contributor	\$22,000
Non-Profit	\$9,000

Level	Effective 2024
Associate Minimum	\$4,000
Associate per employee	\$220
Academic	\$1,000

## Detailed Membership Level Benefits

<p><b>Participate in all working groups with full access to working group materials:</b></p> <ul style="list-style-type: none"> <li>• Join any Khronos Working Group and participate in specification development</li> <li>• Early access to draft Khronos specifications, documentation and related information</li> <li>• Access and participate in development of Conformance Test Suites</li> <li>• Access to all working group materials – including discussions, drafts and call recordings</li> <li>• Participate in Face to Face meetings three times per year</li> <li>• Stand for elected Working Group positions (e.g. Chair, Specification Editor, Conformance Lead)</li> <li>• Enjoy immediate access to the members-only resources</li> <li>• Propose initiation of new Working Groups and projects</li> </ul>	<p>Promoter ✓ Contributor ✓ Associate ✓ Not-for-profit ✓ Academic ✓</p>
<p><b>Marketing</b></p> <ul style="list-style-type: none"> <li>• Company logo and description on Khronos web site</li> <li>• Present and demo at trade events &amp; seminars (SIGGRAPH, GDC, Supercomputing, and more)</li> <li>• Network at member-only events</li> <li>• Meet and influence implementers</li> <li>• Join the Marketing Advisory Panel (MAP) to help shape Khronos marketing efforts</li> <li>• Khronos promotes your Khronos-related member events, webinars, product releases, press releases, etc.</li> <li>• Present and participate in Khronos in webinars</li> <li>• Comment in Khronos Press Releases and activities</li> <li>• <a href="#">Learn more</a> about marketing benefits with Khronos</li> </ul>	<p>Promoter ✓ Contributor ✓ Associate ✓ Not-for-profit ✓ Academic ✓</p>
<p><b>Vote in Working Group level decisions</b></p>	<p>Promoter ✓ Contributor ✓ Associate ✗ Not-for-profit ✗ Academic ✗</p>
<p><b>Board Participation</b></p> <ul style="list-style-type: none"> <li>• Directors Seat and a vote on the Board</li> <li>• Set Khronos strategy and budgetary priorities</li> <li>• Be elected as an Officer of Khronos</li> <li>• Vote on final ratification of specifications</li> <li>• Review and approve each Working Groups' scope of work</li> </ul>	<p>Promoter ✓ Contributor ✗ Associate ✗ Not-for-profit ✗ Academic ✗</p>

Вот все возможности членов консорциума

# Управление группами и подгруппами

Руководители групп по стандартам часто происходят из совета директоров

## Working Group Chairs

	 <p>CHAIR: <b>Shrenik Sadalgi</b> Wayfair <a href="#">LinkedIn</a></p>	 <p>Secretary: <b>Leonard Daly</b> Independent <a href="#">LinkedIn</a></p>	 <p>Vice Chair: <b>Thomas Huang</b> Target <a href="#">LinkedIn</a></p>		 <p>CHAIR: <b>Neil Trevett</b> NVIDIA</p>	
	 <p>CHAIR: <b>Alexey Medvedev</b> Meta <a href="#">LinkedIn</a></p>				 <p>CHAIR: <b>Kiriti Nagesh Gowda</b> AMD <a href="#">LinkedIn</a></p>	
	 <p>CHAIR: <b>Jefferson Amstutz</b> NVIDIA <a href="#">LinkedIn</a></p>				 <p>CHAIR: <b>Alfredo Muniz</b> XEED <a href="#">LinkedIn</a></p>	 <p>Vice Chair: <b>Ron Bessems</b> Magic Leap <a href="#">LinkedIn</a></p>
	 <p>Co-Chair: <b>Geoff Stahl</b> Apple</p>	 <p>Co-Chair: <b>Emily Stearns</b> Khronos Group</p>				
	 <p>CHAIR: <b>Jeff Vigil</b> Samsung <a href="#">LinkedIn</a></p>				 <p>CHAIR: <b>Michael Wong</b> Codeplay <a href="#">LinkedIn</a></p>	
	 <p>CHAIR: <b>Neil Trevett</b> NVIDIA <a href="#">LinkedIn</a></p>				 <p>CHAIR: <b>Tom Olson</b> Arm Ltd <a href="#">LinkedIn</a></p>	
	 <p>CHAIR: <b>Piers Daniell</b> NVIDIA <a href="#">LinkedIn</a></p>				 <p>CHAIR: <b>Peter Papadatos</b> Core AVI <a href="#">LinkedIn</a></p>	
	 <p>CHAIR: <b>Piers Daniell</b> NVIDIA <a href="#">LinkedIn</a></p>				 <p>CHAIR: <b>Kenneth Russell</b> Google <a href="#">LinkedIn</a></p>	

Есть подгруппы со своими руководителями

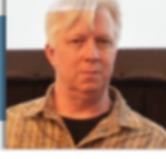
## Task Sub-group Chairs

<b>Asset Creation TSG</b> 		Co-Chair: <b>Nathaniel Hunter</b> Dreamview Studios <a href="#">LinkedIn</a>		Co-Chair: <b>Max Limper</b> DGG <a href="#">LinkedIn</a>		Co-Chair: <b>Eric Chadwick</b> Wayfair
<b>Certification &amp; Validation TSG</b> 		Co-Chair: <b>Leonard Daly</b> Independent <a href="#">LinkedIn</a>		Co-Chair: <b>Ashleigh Miller</b> Amazon <a href="#">LinkedIn</a>		
<b>Configuration TSG</b> 		Co-Chair: <b>Daniel Beauchamp</b> Shopify <a href="#">LinkedIn</a>		Co-Chair: <b>Stefan Leroux</b> Shopify <a href="#">LinkedIn</a>		
<b>Metadata TSG</b> 		Co-Chair: <b>Jon Wade</b> Shopify <a href="#">LinkedIn</a>		Co-Chair: <b>Adam Morris</b> Target <a href="#">LinkedIn</a>		
<b>3D Formats Tooling TSG</b>  		: <b>Leonard Daly</b> <a href="#">LinkedIn</a>				
<b>OpenCL Tooling TSG</b> 		CHAIR: <b>Anastasia Stulova</b> Arm Ltd <a href="#">LinkedIn</a>				

<b>PBR TSG</b> 		CHAIR: <b>Ed Mackey</b> Analytical Graphics Inc. <a href="#">LinkedIn</a>
<b>SPIR Memory Model TSG</b> 		CHAIR: <b>Robert Simpson</b> Qualcomm <a href="#">LinkedIn</a>
<b>VK-GL-CTS TSG</b> 		CHAIR: <b>Matthew Netsch</b> Qualcomm
<b>Vulkan ML TSG</b> 		CHAIR: <b>Ross Cunniff</b> NVIDIA <a href="#">LinkedIn</a>
<b>Vulkan Portability TSG</b> 		CHAIR: <b>Neil Trevett</b> NVIDIA <a href="#">LinkedIn</a>
<b>Vulkan Ray Tracing TSG</b> 		CHAIR: <b>Daniel Koch</b> NVIDIA <a href="#">LinkedIn</a>
<b>Vulkan SI TSG</b> 		CHAIR: <b>Chad Versace</b> Google <a href="#">LinkedIn</a>
<b>Vulkan Video TSG</b> 		CHAIR: <b>Ahmed Abdelkhalek</b> AMD <a href="#">LinkedIn</a>

# Есть редакторы спецификаций

## Spec Editors

		<b>Johannes Guenther</b> Intel			<b>Hwanyong Lee</b> Ajou University				
		<b>Jon Leech</b> Independent <a href="#">LinkedIn</a>			<b>Radha Giduthuri</b> Intel <a href="#">LinkedIn</a>				
		<b>Ben Ashbaugh</b> Intel <a href="#">LinkedIn</a>		<b>Michael Kinsner</b> Intel <a href="#">LinkedIn</a>		<b>Alastair Murray</b> Codeplay <a href="#">LinkedIn</a>			<b>Ryan Pavlik</b> Collabora <a href="#">LinkedIn</a>
		<b>Jon Leech</b> Independent <a href="#">LinkedIn</a>			<b>John Kessenich</b> Google <a href="#">LinkedIn</a>				
		<b>Jon Leech</b> Independent <a href="#">LinkedIn</a>			<b>Ronan Keryell</b> AMD <a href="#">LinkedIn</a>				
		<b>Hwanyong Lee</b> Ajou University			<b>Jon Leech</b> Independent <a href="#">LinkedIn</a>				
				PICTURE NOT AVAILABLE	<b>Dean Jackson</b> Apple				

Наконец, в каждой группе желательно наличие руководителя  
ПО ВНЕШНИМ ОТНОШЕНИЯМ

## Outreach Officers

		<b>Adam Morris</b> Target <a href="#">LinkedIn</a>				
		<b>Jared Cheshier</b> Pluto <a href="#">LinkedIn</a>		<b>Denny Ronngren</b> Tobii Technology AB <a href="#">LinkedIn</a>		
		<b>Tom Deakin</b> University of Bristol <a href="#">LinkedIn</a>				
		<b>Karen Ghavam</b> LunarG <a href="#">LinkedIn</a>		<b>Tobias Hector</b> AMD		<b>Marty Johnson</b> Khronos Group
		<b>Neil TREVETT</b> NVIDIA		<b>Steve Winston</b> Holochip <a href="#">LinkedIn</a>		

Компании, применяющие стандарт

Любая компания может применять стандарты Khronos бесплатно. Но не может говорить об этом. А если она хочет заявить совместимость, есть отдельная тарифная сетка.

Разработчики могут получить статус "последователя" только после уплаты взноса и прохождения независимых тестов

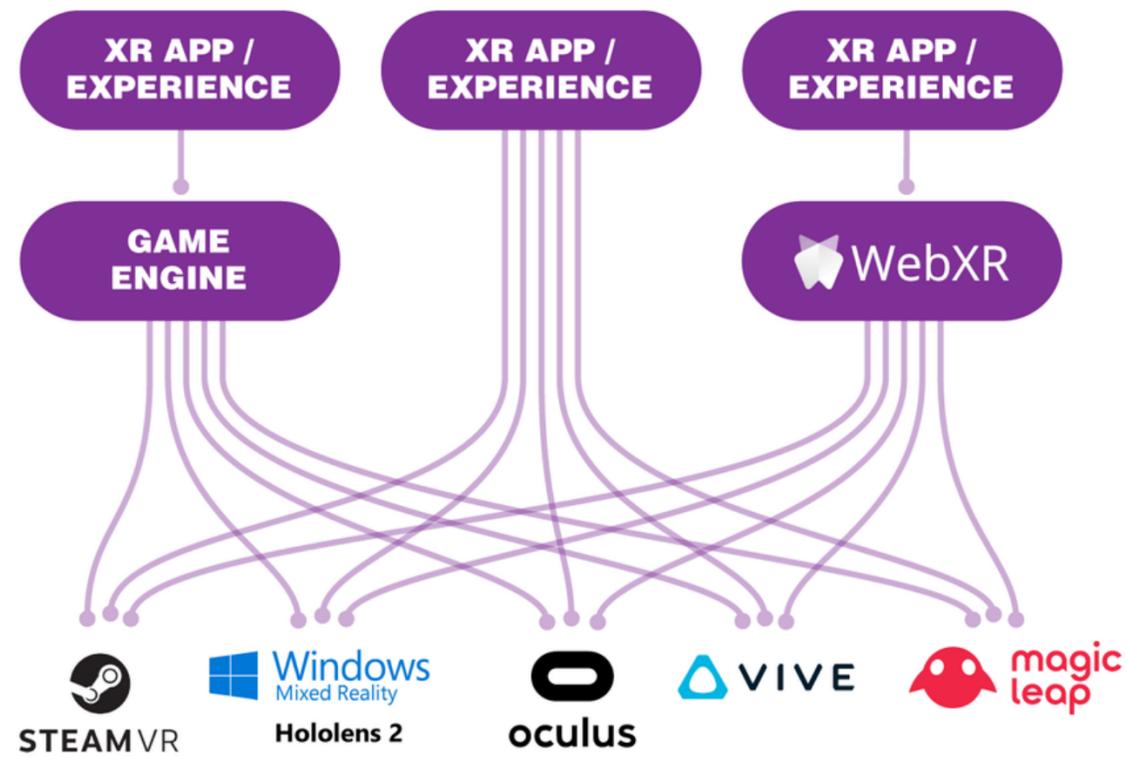
	Adopter	Implementer
<b>Develop Products</b>		
Access to the public Khronos Specifications, documentation and support files	✓	✓
Develop license-free, royalty-free products using Khronos Technologies	✓	✓
<b>Conformance Testing</b>		
Access to Adopter mailing list	✓	✗
Formal Review Process	✓	✗
Submit products to the conformance process (Must sign Adopter agreement and pay Adopter fee)	✓	✗
Conformant Product can use API Trademark (Must pass conformance tests)	✓	✗
<b>Marketing</b>		
Opportunity to mention products and be quoted in Khronos press releases, articles, and newsletters	✓	✗
Company logo and description on Khronos web site	✓	✗

API	API Versions Covered (Includes all minor updates and lower versions)	Members Adopter Fee (USD)	Non-Members Adopter Fee (USD)	Applicable Discounts and Discounted Rates
OpenCL	1.2	\$10,000	\$15,000	\$1,500 Adopters fee for Khronos Academic Members or accredited academic institutions
	3.0	\$25,000	\$30,000	\$1,500 Adopters fee for Khronos Academic Members or accredited academic institutions
OpenGL	3.2 – 4.5	\$25,000	\$30,000	No upgrade discount from previous versions
	3.2 – 4.6	\$45,000	\$60,000	No upgrade discount from previous versions
OpenGL ES	1.1	\$10,000	\$15,000	Upgrade from OpenGL ES 1.0: discount any paid OpenGL ES 1.0 Fees
	1.1 – 2.0	\$14,000	\$19,000	Upgrade from OpenGL ES 1.0: discount any paid OpenGL ES 1.0 Fees. Upgrade from OpenGL ES 1.1: \$6K discount
	1.1 – 3.0	\$25,000	\$30,000	Upgrade from OpenGL ES 2.0: \$5K discount
	1.1 – 3.2	\$25,000	\$30,000	Upgrade from OpenGL ES 3.0: \$5K discount
OpenGL SC	1.0	\$20,000	\$25,000	
	2.0	\$30,000	\$40,000	
OpenVG	1.1	\$10,000	\$15,000	Upgrade from OpenVG 1.0: \$5K discount
	1.1 Lite	\$10,000	\$15,000	Upgrade from OpenVG 1.1: \$5K discount
OpenXR	1.0	\$25,000	\$30,000	

# Примеры продуктов рабочих групп

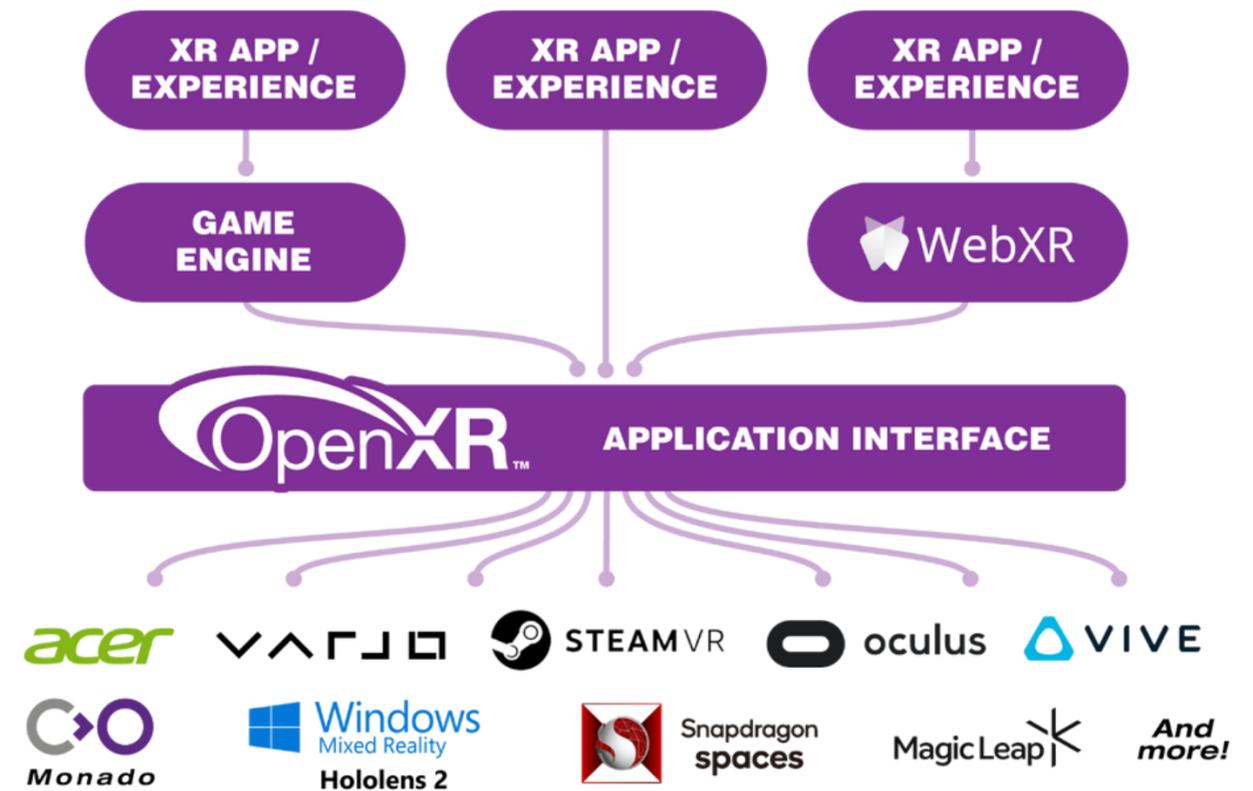
# OpenXR

Было



**Before OpenXR:** Applications and engines needed separate proprietary code for each device on the market.

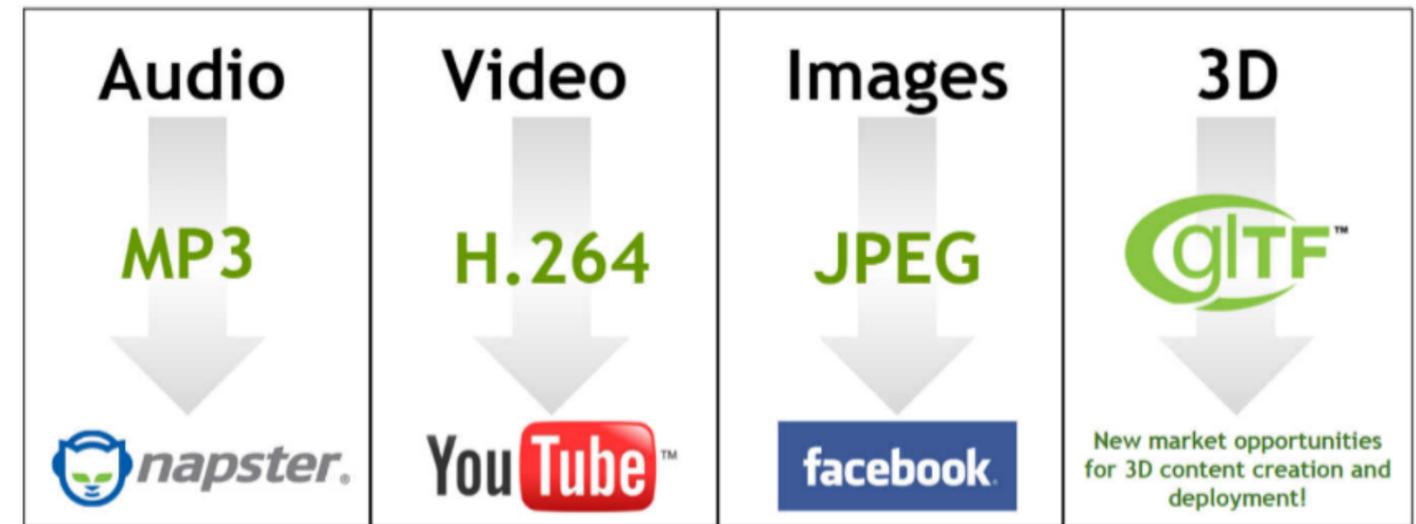
Стало



**OpenXR** provides a single cross-platform, high-performance API between applications and all conformant devices.

# Формат файлов 3D-графики glTF

glTF is the "JPEG of 3D"



glTF 2.0 Scene Description Structure

