An overview on IP offer and IP demand

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Design And Reuse

IP SoC Grenoble 2019
Outline

• History

• D&R Ecosystem

• The Future
IP Concept: Why? Who? Which IP?

Why?
• The world is speeding up? Time to market pressure; Engineering (Knowledge) shortage
• Talented engineering and knowledge available? Globalization?

IP Concept born: Resource & Knowledge sharing/Reuse
IP Business. NRE, Licensing fee, Maintenance, Royalty

Star IP
ARM, Amba Ecosystem

Standard Centric
Interface IP

Design Skill Centric
Analog, Embedded memory

Knowledge Centric
AI, Automotive, Video, Security

EDA vendor

Alliance program

Foundry

Fabless IC Vendor
Asic in Electronic Systems
AI, IoT, medical, mobile, network ...

Design & Reuse
D&R Ecosystem: 42,000 Registered members

D&R founded in 97 as a privately held company with a mission:

**Be the catalyst of IP Dissemination & IP business providing support to IP providers & IP consumers**

- **Hold Premier IP SoC Market Place** [www.design-reuse.com](http://www.design-reuse.com)
  - displaying exhaustive list of resources available as Silicon IP and SoC (System on Chip) solutions
  - Facilitating the contact between provider and consumer
- **Extended to** [www.dr-embedded.com](http://www.dr-embedded.com) (2012)
  - Dedicated to Application specific solutions (Automotive, AI, IoT, Security, ...)
- **Extended to** [www.design-reuse-china.com](http://www.design-reuse-china.com) (2016)
  - Dedicated to Chinese audience

**Provides next generation Technology and Services based on IP Management Platform - IPMS™**

- Web e-Catalog
- IP Management Enterprise Platform For IP providers and IP consumers
- Vendor tool Management
Outline

• D&R Ecosystem
  - What is published
  - The audience

• Acquisition Flow

• The Future
Native Design Reuse site: www.design-reuse.com

Exhaustive IP SoC list – No selection – Open upload
Google-like Search - Emphasis on maturity on specific Target Process.
80,000 unique visitors per month (Google statistics)
List of Selected Soc Solutions in hot areas (Automotive, AI, Security..)
Reserved to D&R partners
Marketing campaigns on specific solutions

Find Top SoC Solutions
for AI, Automotive, Internet of Things, Security, Audio & Video...

› Browse   › Provider list

› SoC Design Services   › Design Platforms   › Verification Platforms

Automotive Avionics  Internet of Things  Artificial Intelligence  Embedded FPGA  Trading Cryptomining
Website dedicated to Chinese users

BEST OF- Facilitate IP dissemination in China
Weekly News Alert dedicated to Chinese Market
What is published?

On www.design-reuse.com about **18 000 IP cores**

On www.design-reuse-embedded.com more than **1 200 Selected SoC Solutions** targeting dedicated application Vision, Audio, IoT, Embedded processing, Automotive ...
Which categories of products are the most popular on D&R?

- Interface Controller & PHY
- Analog & Mixed Signal
- Wireline Communication
- Memory Controller & PHY
- Processor Solutions
- Multimedia
### Most popular sub categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Wireline Communication</td>
<td>Ethernet</td>
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<tr>
<td>Interface Controller &amp; PHY</td>
<td>MIPI</td>
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<tr>
<td>Analog &amp; Mixed Signal</td>
<td>A/D Converter (ADC)</td>
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<td>Security</td>
<td>Cryptography Cores</td>
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<tr>
<td>Interface Controller &amp; PHY</td>
<td>PCI</td>
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<td>Memory Controller &amp; PHY</td>
<td>DDR</td>
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<td>Memory &amp; Logic Library</td>
<td>I/O Library</td>
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<tr>
<td>Analog &amp; Mixed Signal</td>
<td>PLL</td>
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<tr>
<td>Interface Controller &amp; PHY</td>
<td>AMBA AHB / APB / AXI</td>
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<tr>
<td>Processor Solutions</td>
<td>AI Processor</td>
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<tr>
<td>Interface Controller &amp; PHY</td>
<td>Multi-Protocol PHY</td>
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<td>Q1’19</td>
<td>Q2’19</td>
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<tr>
<td>Diabolo Technologies</td>
<td>Athena Group</td>
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<td>memory technology asets</td>
<td>security, anti-tamper, signal processing</td>
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<td>Rambus</td>
<td>Visa</td>
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<td>Facebook</td>
<td>Mercury Systems</td>
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<td>HCL Technologies</td>
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<td>Allegro DVT</td>
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<td>Synopsys</td>
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<tr>
<td>Verimatrix ( Inside Secure)</td>
<td>Rambus</td>
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Acceleration of Acquisitions 2017-2019

Q1 | Q2 | Q3 | Q4
---|---|---|---
2017 | 2018 | 2019

Design & Reuse
Registered Users- D&R Community

- Asia: 49%
- India: 19%
- Americas: 17%
- Europe: 13%
- Australia & Oceania: 3%
Visitor Traffic on www.design-reuse.com

Google Statistics for www.design-reuse.com
80 000 unique visitors per month
250 000 page views per month
Who really searches for IP?

Identified registered user downloading IP description

- China, S.Korea, Taiwan, Japan, Singapore, Hong Kong: 39%
- The rest of countries: 61%
D&R Marketing Services

For IP Providers

• Web publicity (banners)
• Lead service upon Search on D&R web sites
• Topic specific Campaigns

For IP consumers – Electronic System houses

• Search/Find IP on an exhaustive list of available resources
• News Alerts
  – 2 English Newsletters sent to 27,000 subscribers
  – 1 Mandarin Newsletter sent to 12,000 subscribers
• Events (US, Europe, China).

*In addition to the Search Engine

  – Wanted IP/SoC/Solution service
  – Private Search
Private and Confidential IP Search

Major players in the Electronic System world

• Need
  – To make fast and well-informed business decisions...
  – To find promptly whether or not a specific licensable IP or System on Chip or a platform

• Requirements
  – Full confidentiality and full privacy
    – Full Flexibility for expressing the needs
    – Easy Dialog with the providers
  – In return
    – Selected Offers
Outline

- History
- D&R Ecosystem
- The Future
And next?

• Innovation and engineering skill is the seed of semiconductor industry
  “Wanted all over the world”
• Trends
  – More SoC design opportunity (IoT, AI, machine learning, ...)
  – More need in emerging area
  – Consequently IP licensing and IP provider acquisition will warm up
• Better IP dissemination
  – New business model (open source) and new initiatives (RISC V)
  – Smart contract..
• D&R mission: A worldwide IP ecosystem
  • Better IP dissemination .. IP democratization .. Easy contracting
And more: Announced Today

D&R announces the opening of an IP Core Store to support Soft IP Cores sales to the Chinese Market
IP & Innovation Democratization

**For whom?**
Access to the worldwide market for "small" IP providers

**Which IP?**
Targeting soft IP as "proof of innovation" (validated on FPGA)
Simple, direct download of soft IP with no wasted time

**Which infrastructure?**
"Easy-to-use" IP purchase center
Simple purchase track

**Which Market?**
Chinese Customers (growing market)
Safe environment within the D&R IP ecosystem