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Exclusions And Sanctions Help 'Enemies' To Build Their Own Capabilities

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The hostile behavior the 'west' is showing towards China and Russia has consequences.

The International Space Station is losing the Russian modules it needs to maneuver. The U.S. will immediately have to build new propulsion modules if it wants to save it.

bigger

Russia to withdraw from International Space Station after 2024

> Russia has said it will withdraw from the International Space Station (ISS) after 2024 to focus on building its own orbital outpost.
> Yuri Borisov, who was appointed to lead the state-controlled space corporation Roscosmos earlier this month, said during a meeting with Russian President Vladimir Putin that Russia would fulfil its obligations to other partners before it leaves the project.
>
> Mr Borisov said "the decision to leave the station after 2024 has been made."

The U.S. had planned to operate the station until 2031:

> Earlier this year NASA published plans for the ISS which could see the 444,615kg structure taken out of orbit in January 2031 and crashed into a "spacecraft cemetery".
> It said the laboratory would continue operating until 2030 but its long-term future is unsustainable.

The end date will now likely be earlier than NASA had planned. As an earlier report explained:

> Russia provides the propellant and thrusters needed to periodically reboost the station, a critical capability NASA cannot currently replace. Maneuvering is provided by thrusters built into the Russian Zarya and Zvezda modules and aboard visiting Progress supply ships.
> A Northrop Grumman Cygnus cargo ship that arrived earlier this week is the first U.S. vehicle after the space shuttle to be capable of reboost, but it cannot on its own replace the Russian capability.
> ...
> NASA astronauts are not trained to operate Russian systems and vice versa for the cosmonauts. Neither side can safely operate the

> lab on its own.

Without the Russians thruster modules the station will continuously slow down and sink towards earth until it breaks up and burns in the atmosphere.

For the U.S. to build its own thruster modules would very likely take more than two years. They would probably arrive too late to rescue the station.

Russia has plans to build a new space station. An alternative for it may be to hook up with the Chinese space station which was launched last year. Yesterday it received its second large module, a laboratory. A third large module will be added later this year.

China build its own space station because the U.S. had excluded it from participating in the ISS:

> China has been barred from the ISS since 2011, when Congress passed a law prohibiting official American contact with the Chinese space program due to concerns about national security. “National security,” of course, is the lingua franca excuse for any country to do anything it jolly well wants to do even if it has nothing to do with, you know, the security of the nation. But never mind.

Just 11 years after the ban China has launched and operates its own space station.

It is likely that from 2025 on there will again be only one international space station. But it will be operated by China and probably Russia while the U.S. and its allies will likely be excluded from it.

This is the consequence of the U.S. hostile behavior which excludes and sanctions others for unserious reason.

The U.S. had pushed the Dutch government to prohibit the delivery of ASML machines to China that are needed to make the 4-7 nanometer structures of today's most advanced computer chips. Two weeks ago the U.S. started a push to prohibit ASML from delivering even its older models to China.

But a U.S. company recently found out that China' SMIC is already mass producing 7 nm chips. That capability had not been announced:

> "This is the most advanced technology product TechInsights has seen from SMIC so far and may be leading to a true 7nm process that incorporates scaled logic and memory bitcells," TechInsights said.
> ...
> Chip world watcher Dylan Patel noted another implication for SMIC's 7nm capabilities. He said the development means China is now further ahead than the US or Europe in having 7nm contract chip manufacturing capabilities since American chipmaker Intel has yet to make its 7nm process available to foundry customers.

China is also building more chip factories than anyone else:

> China is leading the world in building new chip factories, a step toward achieving more self-sufficiency in semiconductors that could eventually make some buyers reliant on China for many of the basic chips now in short supply.
> As chip makers race worldwide to boost production and ease supply shortages, no country is expanding faster than China, which is slated to build 31 major semiconductor factories, known as fabs, during the four years through 2024, according to the chip-industry group SEMI.

Up to now China had imported $300 billion of chips per year. When all of China's new fabs are ready most of that money will stay in China. Chip producers in Taiwan, South Korea, Japan and the U.S. will have to seek new customers or lower their own output.

The space stations and the chip sanctions only demonstrates the inevitable consequences of being hostile towards large countries like Russia and China.

They have enough alternatives to substitute sanctioned products and to eventually develop their own production capabilities.

All this while the U.S. and its allies lose market shares.

Posted by b on July 26, 2022 at 14:53 UTC | Permalink

Comments

The ultimate sanction is Copyright and patent law that erects an artificial barrier to sharing knowledge in the service of monopoly rent seeking.

How is Copyright and patent law enforced? With sanctions. What happens next?

Posted by: too scents | Jul 26 2022 15:02 utc | 1

thanks b...

using the label "national security" has been an effective tool for a lot of things, but not for getting people to work together on the planet..... at this point "national security" may as well mean "paranoia"... thus we see a move towards total control over everything - totalitarianism... and as @ too scents notes, the copyright and patent laws are more of the same here - block the sharing, and do the opposite... i don't follow the space program stuff.... not sure what the end goal is in all of it..

Posted by: james | Jul 26 2022 15:15 utc | 2

It's ok. Liz Truss will ride to the rescue once she can tell the difference between Baltic/Black Sea and low Earth orbit.

Posted by: Merkin Scot | Jul 26 2022 15:29 utc | 3

Musk will be given whatever he needs to save the ISS. As soon as he stops humping every woman who crosses his path.

China obliterated the chip monopoly-trust. The Eurasian nations that need chips will get them from China. No sanctions will affect that outcome.

The US is playing in a league it cannot compete. Game Over.

Posted by: Red Ryder | Jul 26 2022 15:38 utc | 4

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Posted by: Red Ryder | Jul 26 2022 15:38 utc | 5

The US's position of technological superiority is going to be quickly (on an historical scale) eroded if Russia and the People's Republic of China cooperate and share technological secrets. This seems like a step in that direction. Maybe I'm being too hopeful, after all, so far SMIC is only advertising their 7nm chips as being used for shitcoin mining.

Still, China is making leaps that were not supposed to be possible even one year ago. At the level of *public* technology, that which is enjoyed by the broad masses in their everyday lives, where does the US shine? Our roads are falling apart, our train system doesn't go above 150 mph (and only one route goes that fast), and even the Chinese have access to 5nm chips at the consumer level because TSMC sells to Huawei. Long covid, and the effect it has on intelligence in particular, is another sort of "brain drain" that will affect US innovation for decades to come (maybe centuries - the US's ruling class has shown callous indifference to the fact that 1/3 to 1/2 of its working class is going to develop "long covid" and have their work rate negatively impacted thereby).

Posted by: fnord | Jul 26 2022 15:43 utc | 6

China's new 7nm technology will probably lead in a few years to the mass production of general purpose CPU chips based on the open-source RISC-V architecture - which cannot easily be made subject to western intellectual property laws or sanctions. So they should eventually start to replace the ARM chips that dominate the smartphone market and those from Intel and AMD that are found in most PCs, notebooks and servers. That's good news for Russia which would be a major customer for the Chinese CPUs.

Posted by: Brendan | Jul 26 2022 15:45 utc | 7

Posted by: fnord | Jul 26 2022 15:43 utc | 6

Where did you find that 1/3 to 1/2 will get long covid?

Posted by: alek_a | Jul 26 2022 15:48 utc | 8

...push to prohibit ASML from delivering even its older models to China...

Knowing the flat panel industry quite well, I observed that the transfer of technology/hardware in Asia was for decades from Japan (Gen n) to Taiwan (and S-Korea) (Gen n-1) to mainland China (Gen n-2). This obviously has ended. One reason for China to treat Taiwan with velvet gloves has disappeared. Same holds for the positve influence for Taiwanese willingness to invest in the next generation hardware. China won't buy their old lines anymore. Innovation may slow down. Hong Kong and Shenzhen are another pair subject to such mechanism. The PRC simply does'nt need input from them anymore. - I envision a time when both start begging "to be taken home to the motherland without discrimination".

Posted by: OttoE | Jul 26 2022 15:49 utc | 9

China's capability for domestic DUV lithography tool is already out there and growing, in the stage of commercialization. At the moment, Shanghai Microelectronics is reportedly shipping to customers their 28nm DUV tool, having skipped all the intermediate steps between 90nm and 28nm. That technology is in principle capable of 7nm process, just like the ASML versions which was presumably used by SMIC to produce the 7nm commercial product in 2021.

Development of Chinese domestic EUV (the 2-5nm generation) seems like a story for the rest of this decade, with the tech pipeline at R&D-level already cooking for some time, and reportedly shifting to integration of major subsystems - although english language news about this seems spotty. This will also feed the development of the high end DUV systems, which make are used to do the bulk of the world's chip fabrication today.

I'd point out that there is a well-fed industry of naysayers spread out through the entire Western tech press, who year after year say how insurmountable is the lead of this or that tech champion... I think it'll continue to do what it has done, which is shrink faster than predicted by those with a financial stake in the outcome. In this case, ASML and their intimately connected suppliers will be protected for a while by their patent portfolio on the current leading generation of manufacturing tech. The following generation, I'm guessing, will go the way that 5G/6G went, with China becoming a top-2 player.

Posted by: ptb | Jul 26 2022 15:51 utc | 10

@ Posted by: alek_a | Jul 26 2022 15:48 utc | 8

I pulled it out of thin air based on what I remember to be estimates of the probability of developing long covid after one or more infections, with the assumption that the US ruling class is right that everyone will eventually get infected at least once. 1/3 seems like a reasonable estimate. Maybe 1/2 is doomsday-saying.

Still, this whole pandemic I have been amazed at the alacrity which the ruling class - the bourgeoisie, the business owners and shareholders- pushed against any kind of pandemic management policy besides "we'll just live with it," in total contrast to the Marxist-Leninist governments of the world who have taken lockdowns to the micro-level (neighborhoods, apartment buildings) and pushed their biomedical industries toward developing effective, cheap, vaccines and treatments (e.g. what has been accomplished by the Cuban medical system - alongside the surveillance imposed on the population by that medical system).

Posted by: fnord | Jul 26 2022 15:55 utc | 11

@ too scents | Jul 26 2022 15:02 utc | 1

Yes, down with patents and copyrights, which are immoral, unethical, and illegitimate, as is the concept of "intellectual property." There was never such a thing, at least not to any extent, and certainly not as a rent-extracting opportunity, in pre-capitalist history. While it is argued that inventors would then be deprived of the fruits of their inventions, I would reply that they are already routinely deprived of them anyway, as in the case of Nicola Tesla, and in any case corporate plunderers have no right to set them up as rent extraction opportunities or toll booths. While I would favor abolishing all patenting root and branch, not even allow corporations to patent their logos, there is a more moderate proposal that would allow inventors and authors to patent their own creations on condition that such patents lapse with the death of the holder and be forever non-inheritable, non-salable, and non-transferable. But corporations or the rich might be able to use that loophole to continue the patent system, so complete abolition would be better.

Posted by: Cabe | Jul 26 2022 16:00 utc | 12

@fnord #6 *...develop "long covid" and have their work rate negatively impacted thereby*

You quantify the incidence rate (1/3-1/2) but don't tell the quality / amount of average efficiency loss. Do you talk about lost working hours (sick days), or loss of mental ability due to brain effects (similar to efficiency loss due to CO2, a.k.a. sleepiness, in overcrowded rooms)? A link to a serious explanation is appreciated.

Posted by: OttoE | Jul 26 2022 16:04 utc | 13

Thanks for the needed update on China's tech advances, b! They don't get the proper attention from comments alone. And there's lots of action happening in Asia, some of which I linked to yesterday on the week in review thread. Today, we're treated to this update, "Officials from China, ASEAN vow to build S.China Sea into sea of peace, friendship and cooperation at symposium marking 20th anniv. of DOC signing":

> Officials from China and ASEAN countries hailed the Declaration on the Conduct of Parties in the South China Sea (DOC) as an important landmark document that has played a huge role in maintaining peace and stability in the South China Sea over the past 20 years at the symposium commemorating the 20th anniversary of the signing of the DOC held in Beijing on Monday. They agreed that China and ASEAN members should focus on cooperation, continue to follow the dual-track approach in dealing with the South China Sea issue, and look forward to the early conclusion of a Code of Conduct in the South China Sea (COC).
>
> The workshop was jointly organized by the Department of Boundary and Ocean Affairs with the Chinese Ministry of Foreign Affairs, the China Institute of Boundary and Ocean Studies (CIBOS) with the Wuhan University, as well as the National Institute for South China Sea Studies (NISCSS).
>
> In his opening speech commemorating the 20th anniversary of the signing of the DOC via video link, Chinese State Councilor and Foreign Minister Wang Yi called on countries in the region to maintain their position in solving the South China Sea issue.
>
> Wang slammed some major countries for continuously increasing their involvement in the South China Sea region to maintain their

> hegemony, deliberately escalating tensions and provoking confrontations, and jeopardizing the legitimate rights and interests of littoral states and normal maritime order, calling on China and ASEAN members to make their attitude clear: **If you come for peace and cooperation, we welcome you. If you come here to make trouble or cause damage, please leave!**
>
> "20 years ago, we seized the historic opportunity to embark on dialogue and cooperation on the South China Sea issue. Under the new historical conditions, we should keep in mind our original aspiration, continue to unswervingly maintain the purposes and principles of the DOC and implement the norms and propositions of the DOC, continue to hold the initiative and dominance in resolving the South China Sea issue in the hands of our regional countries, and truly make the South China Sea a sea of peace, friendship and cooperation," Wang said.
>
> Wang stressed that **China and ASEAN members should uphold the bottom line for peace. The South China Sea is not a "hunting park" for countries outside the region, still less should it become an "arena" for the game between major powers. Any words and deeds that create tension and provoke confrontation in the region should be firmly opposed**. [My Emphasis]

The article makes clear that China's exhortations are shared by ASEAN members and that their solidarity on this issue is a huge rebuff to the Outlaw US Empire's attempts to divide and rule. The next major Asian diplomatic event will be the SCO's Foreign Ministers' Meeting in Tashkent, Uzbekistan from July 28-29. More info about that meeting and China's involvement can be read here. The main SCO Summit will be held in Samarkand September

15-16.

Posted by: karlof1 | Jul 26 2022 16:07 utc | 14

@ Posted by: OttoE | Jul 26 2022 16:04 utc | 13

I'm admittedly working with intuition and crude ideas here, so take what I'm saying with a grain of salt. AFAIK no one has estimated using known/observed quantities what the impact of long haul covid will be on the US economy or on "innovation" which is already a kind of nebulous concept. But just using a little deduction and intuition from things we know to be true, i.e.:

1) There is a probability of long-lasting symptoms emerging after covid-19 infection
2) One of the most common symptoms is effectively minor intellectual disability ("brain fog")
3) The US has given up on managing the pandemic and its government has said everyone will get it at least once

I can surmise pretty confidently that this will have a negative impact on the US workforce and on innovation. Whether or not it will have a catastrophic impact, I don't know, but it's not something China is going to deal with on the scale that we will here.

Posted by: fnord | Jul 26 2022 16:11 utc | 15

So joe b. plan of BBB is working but only for Russia, China, and other BRIC.

Posted by: jo6pac | Jul 26 2022 16:13 utc | 16

I supposed International Space Station (ISS) is better for marketing than Low Earth Orbit Research Project.

Posted by: Opport Knocks | Jul 26 2022 16:14 utc | 17

Pretty soon Russia and China won't need anything from "the west".
Europe is chosing the wrong side. The US and UK are the losing side.
Wake up Germany. You're going to go down with them!

Posted by: Dave Pollard | Jul 26 2022 16:14 utc | 18

@ too scents | Jul 26 2022 15:02 utc | 1
Posted by: Cabe | Jul 26 2022 16:00 utc | 12

You are both too harsh on patents, copyrights and other intellectual property. A better solution would be for patents to expire after a defined period of time and for financial compensation agreements to decline over the period they are active.

A "common good" patent for something like a drug might only last 3-5 years, whereas rights to books or music might end with the death of the creator.

Posted by: Opport Knocks | Jul 26 2022 16:21 utc | 19

The chairman of ASML has already years ago told Trump that sanctioning the Chinese will backfire - and sure enough, less than 4 years later, probably much sooner then even ASML feared, that premonition has hit home.

Posted by: Peter Camenzind | Jul 26 2022 16:24 utc | 20

@Opport Knocks | Jul 26 2022 16:21 utc | 19

You failed to make any argument in favor of patent or copyright.

In reality they are an externalized cost suffered by society.

Posted by: too scents | Jul 26 2022 16:25 utc | 21

All this while the U.S. and its allies lose market shares.

Which is why a US economic war on China is actually in the US interest long term. It needs to build up it's manufacturing abilities again. The industrial and economic relationship between China and the US has begun to flip and now it's the US who benefits from being forced to build it's own abilities, crowing that the West is becoming dependent on China is just another argument for exactly cutting itself off. China, of course, wasn't forced to build up it's capabilities industrially so much as the government understood it needed to trap the capital and industrial capacity from US companies hunting for cheap labour thinking when they'd exhausted it in China they'd just move on again but China acted like Japan, Taiwan and Korea before it and built up protected industries from the Western investments.

This is the part that can only be explained by antisocial ideology. The neocons want the US to be the most powerful country in the world because they want it to always be there to bail out Israel or support it's aggression and expansion. But the same outsider ethnocentrism that fuels that also fuels their broad support for neoliberal policies that hurt working class 'core' Americans whom they hate and fear. So they simultaneously supported the deindustrialisation of the US (And the former Warsaw Pact countries, particularly Russia, Belarus and Ukraine when they got their hands on them.) and expanded it's imperialism. Something had to give but they can't accept it.

They need a strong protectionist economy at home to fight their enemies without but a broken deindustrialised one to hurt their enemies at home. They tried to have both. And that has led them to start a reckless proxy war against Russia in 'revenge' for their counter intervention in Syria while waking the sleeping giant of China (Whom they supported building up through autistic libertarian economics) and pushing Russia into China's arms to create a foe that the US isn't capable of defeating. Even worse they gave the game away in terms of every tool and weapon of economic coercion that exists for the West and showing that even much weaker Russia has been able to weather with only 8 years notice and far lower expectations of what awaited it. China will now act as if it is in the prelude to war with the West since Russia's nukes couldn't deter this crazy proxy war and insulate itself economically and seek the global South's help to build it's new parallel order.

What's crazy is outside a few people capable of thinking for themselves, left to exist on the fringes of the media, nobody is even talking about this. The West just assumes that has all the cards. But Western countries have had every source of social and political solidarity ripped from them by neoliberal policies and their democracies have become utterly corrupted. They will be trounced by coherent authoritarian states that invest in themselves and which operate under real economic theory and not academically-laundered apologia for rentierism and parasitism.

Posted by: Altai | Jul 26 2022 16:25 utc | 22