

## Re: Space Access Update #112 9/19/05

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*Source:* <http://sci.tech--archive.net/Archive/sci.space.policy/2005-10/msg01096.html>

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- *From:* "Tom Cuddihy" <[tom.cuddihy@xxxxxxxxxx](mailto:tom.cuddihy@xxxxxxxxxx)>
  - *Date:* 26 Oct 2005 22:00:14 -0700
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Len wrote:

[snip]

>

- > Before Apollo, the conventional wisdom was on the side
- > of on-orbit assembly and propellant loading. IMO, we
- > went down the wrong path.

Before Shuttle The Conventional Wisdom was that if we built a national reusable 'space shuttle,' the cost of access to orbit would go down.

Before Delta IV, the Conventional Wisdom was that LOX/H2 is better than LOX/hydrocarbon.

Before the IBM PC and networking, the conventional wisdom was that more powerful supercomputers would eventually run the world.

the conventional wisdom is usually way wrong. Even a squirrel finds a nut now and then, but The Conventional Wisdom tends to be dumber than squirrels when forecasting technology.

- > It is way past the time to correct
- > the infrastructure problem. True enough, this will not
- > happen "automagically" (good word, I like it). However,
- > cheaper launches could help with respect to reforming
- > the infrastructure, as well as following through on an

Infrastructure is something that costs more as it ages, and costs more to build the longer you wait to upgrade it.

I.e. the more fluid and responsive your infrastructure is, and the more often you upgrade it, the cheaper its use gets. With that in mind, the very long timelines a high level reusable vehicle would require to design, build, and fly makes the infrastructure worse off in the meantime.

On the other hand, the quicker you you can start launching, upgrading, and starting designing again, the better off your infrastructure will be. That argues for quick and dirty methods to orbit, like ELVs. Design, build, fly, upgrade, design, build, fly...much quicker to upgrade with a throwaway system like that.

This is one of the reasons CEV is NOT stipulated to require reusability.

They still fly 80s computers on the Shuttles, right? Not to mention the thing was designed in the early 70s. If it takes you 10 years to design and declare working your reusable vehicle, by the time your first commercial satellite was delivered to orbit, the entire infrastructure might be obsolete.

Tom

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• ***Follow-Ups:***

- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Len
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Jeff Findley

• ***References:***

- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Dr John Stockton
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Pete Lynn
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Pete Lynn
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Len
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Fred J . McCall
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Len
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Monte Davis
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Len
- ◆ ***Re: Space Access Update #112 9/19/05***  
◇ From: Derek Lyons

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