

ERA History Talk

Lowell A. Benson – UNIVAC 1960→Unisys 1994, VIP Club 2005→today.

1 INTRODUCTION

On June 15th, 2023, Ramsey County Historical Society unveiled a commemorative plaque at the site where Engineering Research Associates (ERA) opened for business January 8th, 1946. The plaque focus is that *technology came to rival agriculture and mining as a leading Minnesota industry*. The VIP Club’s Mr. Benson was invited to participate in the ceremony, talking about ERA’s legacy timeline. Lowell wrote this report for post-event website readers.

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Legacy Paper edited with Microsoft Word.



2 ERA PLAQUE COMMEMORATION

2.1 COMMEMORATIVE EVENT SPEAKERS

- Don Hall, Opening welcome and brief history of ERA in St. Paul. (2014 author of *Generation of Wealth – the rise of CDC*.)
- Chad Roberts uncovers the Plaque, President of the Ramsey County Historical Society.
- Lowell Benson - ERA became UNIVAC-Unisys: (Unisys retiree, VIP Club historian.)
- Dean Laurance remembers the work environment (engineer who worked at ERA.)
- Norb Berg recalls Bill Norris and Control Data Corporation.
- John Rollwagen reminisces about Seymour Cray and Cray Research.
- Manny Villafana, the evolution to medical devices (founder of Cardiac Pacemakers and St. Jude Medical.)
- Audience comments; questions & answers and photo opportunities.

2.2 SCRIPT, ERA TO UNISYS EVENTS

Thanks Don: Hello and welcome guests! I represent retirees from the corporate lineage of ERA, Remington Rand, UNIVAC, Sperry, Lockheed Martin, and Unisys. More information is shown on our table top display over there [see section 5.2 below.] This talk compresses a 77-year ERA Information Technology legacy into five minutes of significant time points!

1946 - ERA opened their doors for business on January 8th, here and in Arlington, VA. This area was a multi-building Navy Base; 1902 Minnehaha Avenue was the guard building entrance and the US mailing address. The legacy companies had lease/rent agreements until the late 80s when Unisys moved out and the Navy sold the property.

1952 –Remington Rand bought ERA; merging it with Eckert Mauchly Computer Corporation in Pennsylvania to form Remington Rand UNIVAC (RRU).

About then engineering manager John M. Coombs left ERA for IBM. A year later IBM announced their model 650 computer; the 650 designs included non-volatile drum memory technology that came from a very loose ERA/IBM patent agreement.

Possibly the first ex-ERA engineer to aid another company's success!

1958 – UNIVAC delivered an ERA/UNIVAC model 1103 S/N 4 to the U of MN to start their digital computer center in the Experimental Engineering building.

Thus, an ERA designed computer started the University's Computer Science curricula.

1961 – Remington Rand Univac (RRU) divided its computer operations into two financial groups: **Defense Systems Division (DSD)** based in St. Paul while the Roseville commercial operations would report directly to Blue Bell, PA. This separation was to avoid some governmental contract accounting and auditing requirements!

1967 – Sperry Rand operations opened a new **Defense Systems Division** headquarters building near the Eagan central commons area, the 8th ERA successor facility in the area.

1980 – The **Charles Babbage Institute (CBI)** opened at the University of Minnesota. Founder Erwin Tomash was an ex-ERA engineer. The first CBI director, Dr. Arthur Norberg, held the **Engineering Research Associates Land Grant Chair for the History of Technology.**

1986 – Sperry put an ERA plaque here that disappeared in the 90s. Burroughs bought Sperry to form Unisys – the merging of two companies had personnel in 28 Twin Cities' locations. The combined companies had ~120,000 employees worldwide – about 13,000 in the Twin Cities. The Burroughs offices then merged in Eagan, a new building by the DSD facilities.

1996 – Unisys sold their Defense Systems Division to Loral who in turn sold DSD to Lockheed Martin. Unisys commercial operations continued in both Roseville and Eagan.

2011 – Lockheed Martin announced the closing of their main Eagan facility leaving just the Air Traffic Control department which was later ‘sold’ to a Leidos group.

2011 too – The Dakota County Historical Society (DCHS) agreed to house a permanent exhibit of the ERA-UNIVAC-Sperry-Unisys-LMCO artifacts at their Lawshe Memorial Museum in S St. Paul; thanks to then DCHS Executive Director Chad Roberts.

2017 – Unisys merged the Roseville operations into their Eagan facility on Pilot Knob Road, still reporting to Unisys in Blue Bell, PA - last ERA direct successor facility in the Twin Cities.

2019 –Twin Cities Public Television (TPT) premiered an hour-long documentary *Solid State: Minnesota’s High-Tech History*. The Minnesota High-Tech Association was a principal sponsor, producer was Kevin Dragseth. The narrator was Dr. Tom Misa, the second Director of the Charles Babbage Institute holding the ERA land grant chair. TPT interviewed 27 people; two of whom had worked for ERA – two others are speaking here today!

2023 – Today, I want to thank Don Hall, the Ramsey County Historical Society, and their planning committee for gracing our city and state with this new ERA commemorative plaque.

I am available for questions after the last speaker.

2.3 COMMEMORATIVE PLAQUE WORDING¹

You are facing the original Engineering Research Associates building.

Engineering Research Associates (ERA) was founded at the end of World War II by a group of Navy codebreakers whose top-secret work helped launch the world’s computer industry. Employees produced what is considered the first general-purpose computer with random-access memory, a forerunner to commercial computers today.

Personnel from ERA and its successors helped launch over 100 local firms that developed and built computer hardware and software products and related components. These included Sperry Rand (Univac Division), Control Data Corp. and Cray Research. The technology developed by ERA and its successors, and their financial success, directly influenced the evolving medical device industry that came to include Medtronic, St. Jude Medical, and Cardiac Pacemakers.

From this plant, an enormous contribution was made to human welfare throughout the world, and the benefits to the local economy are almost beyond measure. Technology came to rival agriculture and mining as a leading industry in the state.

This plaque, installed in 2023, recognizes the historic importance of ERA and its successor companies.

Special thanks to: Donald Hall (author), Dave Beal (journalist), Jay Pfaender (historian), Capital Partners (building manager), Chad Roberts (historian) and the Ramsey County Historical Society.

¹ A UMN Press blurb: “The rise of Minnesota computing after World War II—the country’s first fully realized hotbed of computer technology”.

2.4 COMMEMORATIVE PLAQUE LOCATION

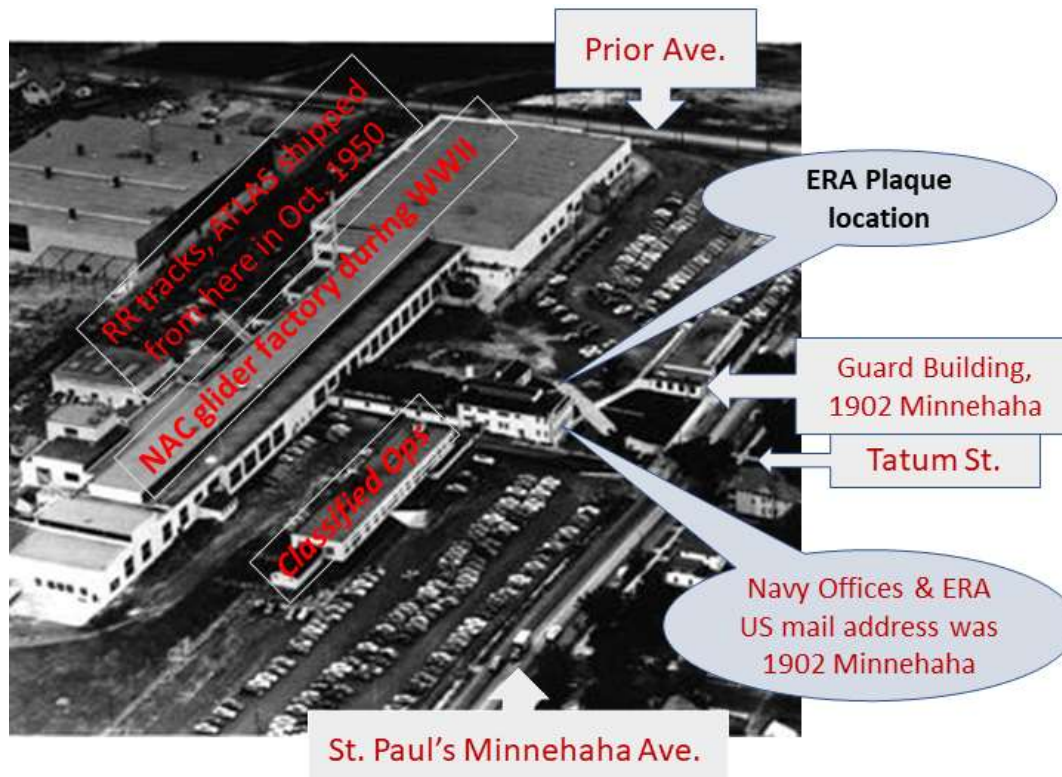


Figure 1. Photo from 1986 ERA 40th anniversary booklet, captioning by LABenson.

2.5 NOTABLE ATTENDEES

- Beal, David– retired St. Paul Pioneer Press business editor and plaque committee member.
- Dragseth, Kevin – Producer at Twin Cities Public Television who led development of the 2019 Digital State documentary <https://vipclubmn.org/Articles/TPTclips.pdf>.
- Geiger, Wilfred ‘Bill’ – Bill participated in the 1986 unveiling of a plaque recognizing the 40th anniversary of ERA’s founding of the computer industry in Minnesota. He also was the Sperry Defense Systems Division General Manager and Vice President at the time that Burroughs bought Sperry to form Unisys, <https://vipclubmn.org/People3.html#Geiger>.
- Lefebvre, Charles ‘Chuck’ – Unisys Vice President and head of the Unisys Eagan operations, the last ERA direct lineage facility,

<https://www.vipclubmn.org/Articles/ThroughTheAges.pdf>.

- Leichtweis, Capt. Donald, ret. USN – Was head of the Navy’s on-site personnel at the leased Sperry facility in the 80s.
- Lenfestey, James P. - Author of [A Gaggle of Geeks](#) originally published in the Minnesota Monthly, July 2005.
- Norris, Roger – one of Bill Norris’ children.
- Pfaender, Jay – retired, local historian and plaque committee member.
- Tollefson, Jeff – President of MN Tech, a consortium of MN companies that had sponsored a Twin Cities Public Television documentary based on [Dr. Tom Misa’s Digital State book](#).

3 ERA'S INFORMATION TECHNOLOGY LEGACY

3.1 FIRST COMPUTER DELIVERY

Engineering Research Associates (ERA) shipped an ATLAS computer via railcars to Washington, D.C. in October 1950.

"It's my belief that the ATLAS I was the first American stored-program electronic computer to be delivered - delivered in finished, working condition." observed Dr. Arnold Cohen. Titled ERA 1101 for commercial sales, the existence of the ATLAS application was classified into the late 60s.

ATLAS began the 1100 series of commercial computers sequenced in this table as well as many Defense-Industry computer-based systems.



Figure 2. Shadow boxes exhibit technologies from model 1103 through the 2200 series - Unisys Eagan.



<u>System type No.</u>	<u>1st unit</u>	<u>last built</u>	<u>qty</u> ²
ATLAS I, 1101	1950	1953	3
1102	1952	1955	3
ATLAS II, 1103	1953	1956	11
1104	1954	1959	10
1103A	1956	1959	19
1105	1957	1960	10
1107	1962	1965	38
1108	1965	1975	303
1106	1969	1976	338
1110 & 1100/40	1972	1979	455
1100/10/20/30	1975	1980	359
1100/80	1976	1985	1121
1100/60	1979	1988	2863
1100/70	1982	1987	77
1100/90	1983	1990	1318
1110 & 1100/40	1972	1979	455
1100/90Dyad	1987	1988	28
System 11	1984	1988	603
2200/200	1986	1990	966
1100/70 Dyad	1987	1988	28
2200/400*	1988		901
2200/600*	1988		438
2200/100*	1989		131

² Build quantities extracted from papers donated to the VIP Club Legacy Committee. * Last build date after 1990.

The 1100 'design' history of technologies is in a 1990 paper by retired Unisys Fellow Richard 'Dick' Petschauer, <http://vipclubmn.org/Articles/HISTORY1100series.pdf>.

3.2 MORE THAN HARDWARE ARTIFACTS

Foremost throughout this Legacy are the people; many now enjoying retirees' camaraderie; others still working at Unisys and other high-tech companies in Minnesota and throughout the states; and sadly - so many who have passed away. Sperry's first female director, Millie Gignac, conceived the retirees club in 1979, <https://vipclubmn.org/history.html#Birth>.

3.2.1 ERA Founders

The founders of ERA were Howard Engstrom, Ralph Meader, William Norris, and John Parker. During WWII, Engstrom, Meader, and [Norris](#) were tied to a classified Navy unit called Communications Supplement Activity-Washington. Mr. Parker had headed Northwestern Aeronautical Corporation that built WWII Army Air Corps gliders in a St. Paul, MN. See <https://vipclubmn.org/Articles/Plant2History.pdf> for glider information.

3.2.2 Spin off organizations.

Technology managers and engineers by nature look for new opportunities. This led to many companies created by people from 'UNIVAC'. This genealogical tree of Minnesota's technology companies begins with ERA in 1946! Most people don't realize that Control Data Corporation was the second Minnesota computer company led by William 'Bill' Norris. Web page <https://vipclubmn.org/Spinoffs.html> also lists those reported to the Legacy committee from 1953 to 1994.

3.2.3 VIP Club Legacy Committee

The committee began at the October 2005 VIP Club board meeting. Richard 'Ole' Olson representing LMCO and Lowell representing the Club volunteered to be co-chairs. Dick Lundgren was the first to join the committee, he arranged a meeting with Dr. Norberg at the Charles Babbage Institute, <https://vipclubmn.org/Articles/FirstVisitToCBI.pdf>. Endowed by U of MN private donations, the CBI Director holds the 'Engineering Research Associates Land Grant Chair for the History of Technology.'



Established in 1980

In 2006 a VIP Club committee started a 'Legacy Anthology' web site; inviting employees and retirees to submit their career summaries and product/project/program stories. To date over 400 people have contributed items, <http://vipclubmn.org/Legacy.html>. Four books also told parts of the story; for example, ERA and Bill Norris are discussed in each book.



Figure 3. Dave Lundstrom was a UNIVAC engineer who went to work for Control Data Corporation, thus his book title. Capt. David Boslaugh, USN ret. and Dr. Thomas Misa were invited to this plaque event; however, could not attend.

Dr. Tom Misa, the second CBI Director 2006/2017, was our committee advisor for archiving and preservation methods, <https://vipclubmn.org/Exhibits.html#CBI>. CBI has archived many ERA/UNIVAC/Unisys and CDC audio interviews. The Club has also donated several document pallets to CBI.

4 LAWSHE MEMORIAL MUSEUM

More defense industry computer artifacts than any other museum in the world!

In 2011 the Dakota County Historical Society (DCHS) board agreed to accept the Legacy Committee's artifacts and to establish a permanent exhibit. Lockheed Martin (LMCO) in Eagan had been providing the legacy committee working and artifact storage space.

As LMCO closed their Eagan facility in 2012; artifacts, documents, and photos were transferred to the DCHS Lawshe Memorial Museum. Led by then DCHS Director, Chad Roberts, a State of Minnesota Legacy Grant, and VIP Club volunteers cataloged the 1,000+ artifacts and began exhibit planning.





This early exhibit snapshot shows a space borne missile guidance computer and a desk set with components from the Athena computer that had over 300 successful missile launches from the Cape and Vandenberg AFB. Desk set came from Don Weidenbach, a 30-year engineer, ERA 1946 – UNIVAC 1976.

A second MN Legacy Grant and VIP Club volunteers then developed 16 educational posters. This 2nd grant and equipment from LMCO also facilitated five workstations at the museum. Volunteers are using workstations to catalogue and identify over 20,000 photos of the Legacy collection, integrating the information into the museum's artifact collection database.



Figure 4. Current DCHS Executive Director Matt Carter is seeking grants to develop informational posters for many other artifacts waiting exhibit positioning. Snapshots on this page by VIP Club Volunteer Extraordinaire Keith Myhre.

5 EPILOGUE

The most prominent ERA/UNIVAC spinoff was Control Data Corporation; the most prominent CDC spinoff was Cray Research. Engineers from our Legacy companies and those two electronic companies and many smaller organizations permeated technology throughout Minnesota thus the plaque event theme.

The VIP Club appreciates the Ramsey County Historical Society commemorating that ERA meant more to Minnesota and the world than just computers! Thanks to all of you who made the time to participate in this event.

5.1 LEGACY COMMITTEE ACHIEVEMENTS

- [Contacts & Links](#) page leads to 100+ computer research and STEM websites.
- Over 400 people wrote legacy articles; authors and article contributors are listed in <http://vipclubmn.org/PeopleIndx.html#Writers>.

Established in 1980

- We contributed to some history videos by the Computer History Archives Project, <https://www.youtube.com/playlist?list=PLsMFdOlQPga49bN2aZlOu6SbZj57uZpZl>.

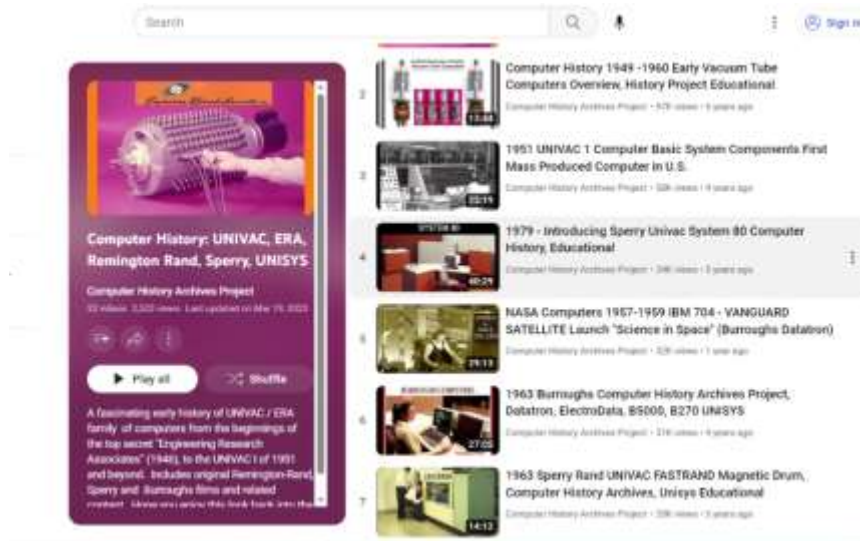


Figure 5. You-Tube Play-List Screen shot shows ERA Drum as the 1st of 32 ERA to Unisys history videos. Thanks to CHAP director Mark Greenia.

- Posted 200+ career summaries listed in <http://vipclubmn.org/People.html#bios>. Our Minnesota corporate name history is at <http://vipclubmn.org/Imcolegacy.html#Names>; defense industry General Mgrs. are at <http://vipclubmn.org/Imcolegacy.html#Mgrs>.
- Twin Cities Public Television (TPT) in partnership with the MN High Tech Association produced a ‘Solid State: Minnesota’s High-tech History’ documentary. It was filmed at TPT studios, the museum, a VIP Club picnic, and a few other MN sites. Narrated by Dr. Tom Misa, it included interviews with eight Legacy Committee members.
- Retirees and friends have contributed over 200 monthly stories since April 2007, <http://vipclubmn.org/OldStories.html>.



Figure 6. The VIP Club conducted an exhaustive search for the missing plaque.

5.2 EVENT SNAPSHOTS



Figure 7. The VIP Club's tabletop display was configured for this event with seven of the 16 informational posters from the Lawshe Memorial Museum. The Wellspring chart across the top is from the Club's 2008 sesquicentennial exhibits.

Snapshots from Club attendees to be added after the event.