

An Interview with Mr. Bernard Krieger*

Prof Eli Jerby
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Bernard Krieger is the CEO of Cober Electronics Inc. He founded the company in 1966 as an early developer of industrial microwave systems for heavy industries and in particular automotive applications. Mr. Krieger is the past President of IMPI and an IMPI Fellow. He is a founding member of AMPERE and recipient of the Ampere Gold-Medal. He is also a founding member of the Microwave Working Group and its President from its start in 1995 through 2015 (as part of the founding team of the microwave federation of worldwide microwave societies). Mr. Krieger holds a Master degree from New York University. He served as a Captain in the U.S. Army.

Q. Congratulations, Mr. Krieger, for being honoured with the first Ampere Gold-Medal:

A. I do want to respond to Ampere with thanks. I want to tell you that I am so very proud to have been awarded the new Ampere medal. I relish it and all of the global friendships that I enjoy as part of the microwave science community. I also appreciate the kind words heard in connection with my being awarded the Ampere medal at the last meeting in Poland.

Q. Can you share with our readers any aspect of your industrial microwave experience?

A. I do have a philosophy about the microwave industry and I will be glad to comment on that. I have been in the microwave industry for very long time.

My company Cober Inc. is 50 years old this year, and I of course am older than that. My personal history doesn't really matter to your audience but I believe that my vision of the industrial microwave industry may be helpful. I would like to explain that. I mostly focus on people, customers, and not necessarily on dielectric properties or microwave frequencies. Industry wants to improve their profitability by being more

efficient, more innovative, lower in cost and more aggressive than their competitors. If they can do that with microwaves, that would be fine. At the same time, if they can accomplish that by leaving their product dry in the sun, that's even better. They want results! They are not married to microwaves... At the same time, our industry searches and evaluates innumerable numbers of applications trying to make microwaves fit with the hope that it could give them a competitive advantage.

Q. How do you rationalize this situation?

A. For me, it is important to comprehend the problem that the customer is trying to solve and do it from his viewpoint, while thinking in my head "what would I do if I was in his situation". He is looking for an answer to a problem and not simply a microwave answer. This means to me that you should have good knowledge of thermal processing, curing and drying etc. To me, it doesn't make sense to tell an industrialist that with microwaves he has the advantage of selective heating.

That message only conveys the fact that microwaves may not heat everything that the manufacturer is producing. What if he is processing materials that are loaded with carbon today and have good dielectric properties for microwaves but tomorrow he may be processing something without carbon and is white in color and it does not heat in a microwave field. On the other hand, no matter what he puts in a hot air oven gets hot for 100% of his products. Further, electrical energy is expensive compared to gas and oil.

Q. How your company copes with such markets?

A. We use microwaves for materials that are fairly thick because of the microwave penetration capability but also we use infrared and high

velocity hot air because they produce a good result on the surface.

Further, we make sure our staff includes chemical engineers who understand total processing and we have electrical engineers because our machines communicate, are automated, user-friendly, meet safety codes and are repairable by factory technicians. We are answering a processing, productivity and operating cost question. That's what really matters. Data on dielectric properties is not a substitute for bottom-line results. It is with these concepts in mind that I was one of the founders of the microwave working group 20 years ago.

Q. Thanks, Bernie, for sharing your views:

A. I hope your readership understands and tolerates my business philosophy and that in spite of it they won't ask me for my Ampere medal back... They can't have it ! I won't give it up for anything.

Above all, it helps me remember all of the wonderful people and places that we have shared and continue to share together.

For further reading:

* AMPERE Newsletter Issue 89 July 7, 2016
<https://www.ampereurope.org/issue-89-pages-37-38>