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Hearing:  
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UNITED STATES PATENT AND TRADEMARK OFFICE

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Trademark Trial and Appeal Board

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In re **EOS GmbH Electro Optical Systems**

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Serial No. 75722993

George W. Neuner of Edwards & Angell, LLP for **EOS GmbH Electro Optical Systems**.

Eugenia K. Martin, Trademark Examining Attorney, Law Office 114  
(K. Margaret Le, Managing Attorney).

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Before Chapman, Bucher and Holtzman, Administrative Trademark  
Judges.

Opinion by Holtzman, Administrative Trademark Judge:

An application has been filed by **EOS GmbH Electro Optical Systems** to register the mark E-MANUFACTURING for the following goods and services, as amended:<sup>1</sup>

machines in the nature of rapid prototyping apparatus for making parts, prototypes, models, molds, tooling and other kinds of three-dimensional objects from plastic, metal, ceramic, sand-based composite or multiple materials for industrial machine parts, automotive

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<sup>1</sup> Application Serial No. 75722993, filed June 7, 1999, based on a foreign registration under Section 44(e) of the Trademark Act and subsequently amended to assert, in addition, a bona fide intention to use the mark in commerce under Section 1(b) of the Act.

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parts, aviation, space technology, consumer goods, electrical and electronic components, scientific and artistic design or representations, architecture, jewelry, human skeletal components and other kinds of three-dimensional objects, in International Class 7;

optical apparatus and instruments, namely, lasers, deflection mirrors, beam expanders, scanners, plane field lenses and shutters for use in rapid prototyping and manufacturing apparatus and systems, in particular, laser sintering apparatus; data processing equipment, namely, laser sintering apparatus; and computer programs for use in rapid prototyping and manufacturing apparatus and systems, in International Class 9;

training services, namely, providing an engineer to introduce and explain the properties, features and operating of rapid prototyping apparatus, in particular, laser sintering apparatus, in International Class 41; and

engineering services for others, namely providing engineering and consulting services relating to the manufacture of prototypes, models, molds and parts for others by rapid prototyping processes; computer programming services for others, namely, programming for rapid prototyping apparatus and systems, in International Class 42.

The trademark examining attorney refused registration on the ground that the mark is merely descriptive of the goods and services under Section 2(e)(1) of the Trademark Act.

When the refusal was made final, applicant appealed. Applicant and the examining attorney have filed briefs. An oral hearing was held.

The examining attorney argues that E-MANUFACTURING is merely descriptive of applicant's "rapid prototyping equipment and services." Specifically, the examining attorney contends that the "e" prefix refers to the computerized processes used in these

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goods and services, and that the word "manufacturing" refers to the purpose of the goods and services, that is, the manufacturing of prototypes and models using the rapid prototyping or laser sintering process. The examining attorney maintains that when the "e" prefix is combined with "manufacturing" the phrase describes "a new method or style of manufacturing, namely one that incorporates computers into the manufacturing process." Final Action, p. 2.

In support of her position, the examining attorney has made of record a dictionary definition of the prefix "e" as "...attached to anything that has moved from the physical world to its electronic alternative, such as e-mail, e-commerce, e-cash, e-cards, etc."<sup>2</sup> The examining attorney has also submitted excerpted articles retrieved from the Nexis database which, according to the examining attorney, show that rapid prototyping is a process whereby rapid prototyping machines work with computers to design and produce the parts, models and other goods manufactured by these machines; that applicant's particular form of rapid prototyping machines, namely laser sintering machines, also use computers to function; and that the term "e-manufacturing" describes an assortment of electronically controlled manufacturing processes in general.

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<sup>2</sup> *Computer Desktop Encyclopedia* © 1981-2003.

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Applicant, on the other hand, maintains that E-MANUFACTURING is only suggestive of its "rapid prototyping apparatus and equipment and related services." While acknowledging that its rapid prototyping process makes use of the computer, applicant contends that incorporating a computer into manufacturing does not describe "a 'new method or style of manufacturing that incorporates computers into the manufacturing process'" and "does not immediately connote E-MANUFACTURING." Brief, pp. 5-6.

Applicant also contends that the excerpted articles submitted by the examining attorney do not show use of "e-manufacturing" in relation to rapid prototyping equipment and services, and further that it is not clear how the term "e-manufacturing" is defined at all by the use in those excerpts. Applicant maintains that the evidence does not demonstrate that the mark immediately conveys information as to applicant's goods or services with any degree of particularity. While admitting that the prefix "e" has come to have a meaning describing goods or services "delivered electronically via a global computer network, i.e., the Internet," (Brief, p. 5) applicant argues that E-MANUFACTURING, when considered in its entirety in relation to applicant's goods and services, requires some imagination, thought and perception to understand the nature of the goods and services.

To support its contention that E-MANUFACTURING is not descriptive, applicant submitted a number of third-party

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registrations of marks combining the prefix "e" with what applicant refers to as "an arguably borderline descriptive term." Applicant maintains that "all are registered on the Principal Register; presumably, because in their entirety they have been deemed to be suggestive." Brief, p. 10. Applicant concludes from this evidence that the mere inclusion of the prefix "e" is not sufficient to show that the mark E-MANUFACTURING in its entirety is merely descriptive of the goods and services.

A term is merely descriptive within the meaning of Section 2(e)(1) if it immediately conveys knowledge of a quality, characteristic, function, feature, purpose or use of the goods and services with which it is used. In re Gyulay, 820 F.2d 1216, 3 USPQ2d 1009 (Fed. Cir. 1987).

The question of whether a particular term is merely descriptive must be determined not in a vacuum or on the basis of speculation, but in relation to the goods and services for which registration is sought. See In re Engineering Systems Corp., 2 USPQ2d 1075 (TTAB 1986). Thus, it is first necessary to understand the nature of applicant's goods and the function they perform.

A prototype, such as that produced by applicant's equipment and apparatus, is the initial design model that companies use to evaluate or test products. See excerpt from *Tulsa World* (March 4, 2002). Such models can consist of essentially "anything from

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machine valves to human jaws." See excerpt from *Oregonian* (February 15, 1999). For example, in the medical field, rapid prototyping can produce human body parts for use as implants and for rehearsing complicated surgeries, such as cleft palate reconstructions and cutting out tumors. See excerpt from *The Dayton Daily News* (July 2, 1996).

The conventional method of creating a prototype is a time-consuming process which involves cutting away at a solid object using manually operated machining equipment in a machine shop. See, e.g., excerpts from *Milwaukee Journal Sentinel* (January 2, 2001) and *Grand Rapids Business Journal* (September 28, 1998). In contrast, "rapid prototyping" is "a method of quickly creating mechanical components...from a computer-based drawing ..."<sup>3</sup> using computer-controlled machinery where the prototype is built layer by layer. See, e.g., excerpt from *Capital Times* (February 3, 2000). Applicant is providing the apparatus that performs this "rapid prototyping" function. The apparatus allows applicant's customers, e.g., engineers and designers of products in a variety of fields and disciplines including the medical, automotive, industrial and arts fields, to

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<sup>3</sup> *Microsoft Encarta College Dictionary* (2001). The Board may take judicial notice of dictionary definitions. *University of Notre Dame du Lac v. J. C. Gourmet Food Imports Co.*, 213 USPQ 594 (TTAB 1982), *aff'd*, 703 F.2d 1372, 217 USPQ 505 (Fed. Cir. 1983).

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quickly produce three-dimensional test models of their product designs.

In a rapid prototyping system, first, the computer creates a virtual 3-D model for the product (i.e., a CAD file). See excerpts from *Rochester Business Journal* (April 25 1997 and *Idaho Falls Post Register* (August 24, 1998). As explained in those excerpts, the virtual 3-D model is then sliced into very thin virtual layers. The CAD file for the layered design is then loaded into a computer that is hooked up to a computer-controlled laser. The laser is used to heat or fuse a material, such as powdered metal or liquid plastic, thereby converting the powder or liquid into a solid layer, perhaps 1/4000<sup>th</sup> of an inch thick, that matches the CAD design layer. See excerpt from *Capital Times* (February 3, 2000). In this way, the laser forms the object, layer by layer, from the bottom up. *Id.*

Applicant's particular type of computer-controlled laser apparatus uses a process called "sintering" to create the layers. "Sintering" basically involves compacting the metal or other such powder and heating it to the point where the particles forming the powder fuse to form the solid layer.<sup>4</sup>

The excerpted stories below describe the computer-controlled nature of the laser apparatus and the layer building process.

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<sup>4</sup> See, e.g., *The Columbia Encyclopedia* (6<sup>th</sup> Ed. 2001).

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Some of the excerpts refer to "stereolithography" which, like laser sintering, is a type of computer-controlled laser process involved in rapid prototyping.

Rapid prototyping uses computer-controlled lasers to make solid objects from liquid polymers and powdered steel. The processes allow manufacturers to check the form and fit of new parts before investing in expensive molds or dies. *Dayton Daily News* (April 4, 1999).

Inside Staub's shop..., computer-generated drawings, lasers and ultraviolet-sensitive liquid resins are used to produce hand-held models of all shapes. The process is called stereolithography, a way of rapid prototyping and tooling. It works like this: The computer drawing tells the laser where to focus inside a dunk-tank of liquid resin. The resin solidifies where ever [sic] it's touched by the beam. The laser "carves" a solid from the liquid. *Dayton Daily News* (October 1, 1997).

The company, which has 120 employees, is an international supplier of rapid prototyping systems. Its systems use a computer-driven laser to fuse various powders together into three-dimensional prototypes and stamping tools. *Austin American-Statesman* (May 22, 1996).

"...removed some of the art out of it and made it a science. Being an old tool-and-die maker, I am sort of sorry to see so much of it. It takes it out of the die maker's hand and the computer handles it." Rapid prototyping in the form of stereolithography or similar technology has increased the rapidity of creating new parts—and the machines to create those parts. *Grand Rapids Business Journal* (September 28, 1998).

DTM Corp. was founded in the late 1980s to commercialize the invention of computer-controlled laser sintering made at the University of Texas at Austin. *Austin American-Statesman* (November 6, 1999).

Adkins used a computer program to design the teeny robots. Their bodies were produced directly from his computer drafts through Sandia's "stereolithography" manufacturing process. Through rapid prototyping, it manufactured the robot bodies microlayer by microlayer, using a laser to instantly melt

and apply the material in a precise, computer-driven procedure. *Albuquerque Tribune* (New Mexico) (January 31, 2001).

It is clear from the Nexis evidence that rapid prototyping involves a highly automated computer-controlled system. It is equally clear, as shown by the Nexis excerpts below, that this computer-controlled system is used in "manufacturing" the prototypes. (Emphasis added.)

**Rapid prototyping is a manufacturing process** that uses computer-aided design and a layered fabrication system to robotically build parts. Introduced in the late 1980s, rapid prototyping permits freeform manufacturing and eliminates the need for jugs and molds. Parts can be completed in a matter of hours... *Dayton Business Reporter* (March 3, 1997).

Wicker said the biomedical lab's researchers begin with medical imaging data such as an ultrasound or a CAT scan, to generate three-dimensional geometric computer models. **The computer models, combined with the lab's rapid prototyping technologies, are used to manufacture three-dimensional replicas** of clogged aortas, frail hearts and other damaged organs. *El Paso Times* (February 16, 2002).

One of the many projects NASA has commissioned in recent years was the feasibility of supplying space orbiters with a **rapid-prototyping device to manufacture spare parts** during flights. *Finance & Commerce* (Minneapolis, MN) (February 4, 2003).

...Stratasys Inc., Eden Prairie, said it has an agreement to co-develop a **rapid-prototyping process for use in manufacturing parts for Fuji's reusable pocket cameras.** *Saint Paul Pioneer Press* (Minnesota) (April 10, 2001 City Edition).

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and apply the material in a precise, computer-driven procedure. *Albuquerque Tribune* (New Mexico) (January 31, 2001).

The engineering research center will focus on **rapid prototype manufacturing**, an area where the university already holds a number of patents. *Austin Business Journal* (July 2, 1999).

With this background in mind, we turn to a consideration of the meaning of E-MANUFACTURING in relation to applicant's goods and services. The Board takes judicial notice of the definition of the prefix "e" as "Short for electronic. A prefix indicating that a word refers to the computer-based version of some traditionally nonelectronic term, as e-mail, e-commerce, and e-money."<sup>5</sup>

In this case, applicant has combined the "e" prefix with the traditionally nonelectronic term "manufacturing." As mentioned earlier, traditional methods of manufacturing prototypes involve manually operated machining equipment. The manufacture of these products has now moved into electronically or computer-controlled processes and devices, i.e., rapid prototyping. The contrast between these two manufacturing methods, conventional manufacturing and manufacturing by means of rapid prototyping, can be seen in the following excerpts:

At the Huntington center, employees of local manufacturers learn how to use computerized routers and rapid prototype

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<sup>5</sup> *Microsoft Computer Dictionary* (5<sup>th</sup> ed. 2002).

machines as well as traditional manufacturing machines. ..."Manufacturing jobs don't have to be dirty. They can be high-tech. And high-tech means higher pay." *The Herald-Dispatch* (Huntington, WV) (September 20, 2000).

"...removed some of the art out of it and made it a science. Being an old tool-and-die maker, I am sort of sorry to see so much of it. It takes it out of the die maker's hand and the computer handles it." *Grand Rapids Business Journal* (September 28, 1998).

As the term rapid prototyping suggests, the machines also can create the parts much more quickly than it would take a machine shop to produce a similar item. Typical turn-around time for company requests is three to four days, ... *Milwaukee Journal Sentinel* (January 2, 2001 Final Edition).

Computerized rapid prototyping systems can create a three-dimensional model of a car part in a fraction of the time it takes to do it manually. *Newhouse News Service* (April 18, 2000).

"So we did a feasibility study. We looked at both traditional manufacturing and rapid prototyping, and we found we can do that with today's technology. *Chicago Tribune* (December 9, 2001).

Thus, we find that the term E-MANUFACTURING when applied to applicant's goods and services, immediately and without conjecture, describes a significant function of rapid prototyping apparatus that enables the computer-controlled manufacture of prototypes. The term also describes the subject matter of applicant's training and consulting services in the use of such apparatus.

It is true, as applicant points out, that the uses of "e-manufacturing" in the excerpted stories submitted by the examining attorney are either unclear or seem to relate more to

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the business activities of a manufacturer (e.g., connecting plant floors to the Internet so that customers can trace and control goods as they move through supply chains or management of plant equipment and inventory) rather than the manufacturing process itself. However, it is not necessary that a term be in common usage in the particular field in order for it to be merely descriptive. See *In re National Shooting Sports Foundation, Inc.*, 219 USPQ 1018 (TTAB 1983). Moreover, a term may have more than one descriptive meaning in a field. Merely because there are other descriptive meanings of "e-manufacturing" does not render the term registrable for applicant's goods and services. In addition, the fact that applicant may be the first to use "e-manufacturing" in this particular context is not dispositive where, as here, the term unquestionably projects a merely descriptive connotation. See *In re MBAssociates*, 180 USPQ 338 (TTAB 1973).

The third-party registrations submitted by applicant are of little probative value in determining whether the mark herein is registrable. To begin with, many of these marks are registered on the Supplemental Register, not on the Principal Register as applicant contends. In other registrations, the register on which the marks issued cannot be determined because that portion of the TESS printout has not been supplied. We also note that several of the registrations on the Principal Register contain

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either a disclaimer of the "e" portion of the mark or the entire "e" phrase.

In any event, it is well settled that each case must be decided on its own merits, based on the particular mark, the particular goods and services, and the particular record in each application. In re Scholastic Testing Services, Inc., 196 USPQ 517 (TTAB 1977). We note, for example, that in a number of the registrations, the combination of "e" with another term results in a mark which is, in its entirety, a nondescriptive play on words, ("DOG-E CARDS"; "CIN-E-MONEY"; "E-CYCLE-PEDIA" for online motorcycle parts) or an otherwise unitary term that simply has no direct meaning in relation to the identified goods or services. Even to the extent the marks in these prior registrations have some characteristics similar to applicant's application, as our primary reviewing court stated in In re Nett Designs Inc., 236 F.3d 1339, 57 USPQ2d 1564, 1566 (Fed. Cir. 2001), "the PTO's allowance of such prior registrations does not bind the Board or this court."

The record in this case demonstrates that the combination of the prefix "e" and "manufacturing" results in a term that is, in its entirety, descriptive of applicant's computer-controlled systems for manufacturing of prototypes and the associated training and consulting services in the use of these systems. It is clear that the product engineers or designers who would be

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purchasing applicant's rapid prototyping products and services would readily understand the descriptive meaning of E-MANUFACTURING in relation to those products and services.

**Decision:** The refusal to register is affirmed as to each of the four classes of goods and services.